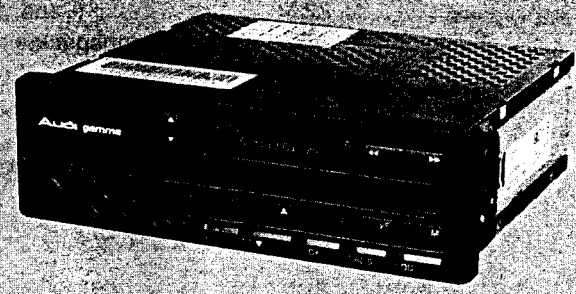
ORDER NO. APD9104992

Service Manual

AUTO PRODUCTS

CQ-LA1020L

Radio Data System Digital Control Tuner/Casstette Player
Radio-Datensystem-Digital-Kontroll Tuner/Cassettenspieler



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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Features

- PLL (Phase-locked loop)synthesizer system is employed to eliminate frequency deviations with change in temperature others.
- The AMDS (Automatic Multipath Distortion Suppressor) circuit is built in to alleviate the distorted feeling otherwise caused by multipath noise
- The GALA system
- Theft protection system
- RDS (Radio Data System) Reception.

Merkmale

- Das PLL-Synthesizersystem (PLL=phasenstarre Schleife) wird verwendet, um Frequenzabweichungen bei Temperaturänderungen zu elimineren.
- Die singebaute AMDS-Schaltung sorgt für automatische Unterdrückung von Rouschstörungendurch Mehrwegempfang.
- Das Gerät ist mit dem GALA-System ausgerüstet.
- Diebstahlschutzsystem.
- RDS (Radio-Daten-System) Empfang.

Panasonic

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Specifications*

Power Supply	: DC 12V (11V – 16V) Test Voltage 14.4V Negative Ground
Tone Controls	: Bass; ± 8 dB at 100 Hz Treble; ± 10 dB at 10 kHz
Current Consumption	: Less than 2.3A (at 0.5W)
Max. Power Output	: 20W
Power Output	: 2 x 12W (DIN45 324, at 4Ω)
Speaker Impedance	: 4Ω
Car Stereo	
Reproduction System	: 4-Track, 2-Program Stereo
Tape Speed	: 4.76 cm/sec.
FF/Rewind Time	: Less than 140 sec. (C-60)
Frequency Responce	: 35 – 12,500 Hz (Normal) 35 – 16, 000 Hz (Metal)
Wow/Flutter	: 0.2%(WRMS)
Signal/Noise	: 52 dB
FM Stereo Radio	
Frequency Range	: 87.5 – 108 MHz
Usable Sensitivity (S/N 30 dB)	: 8dB/μV
RDS Sensitivity	: 22 dB/μV
Stereo Separation	: 35 dB (at 1 kHz)
AM Radio	
MW	
Frequency Range	: 522 – 1,602 kHz
Usable Sensitivity (S/N 20 dB)	: 24 dB/μV
Dimensions	: 178(W) x 52(H) x 150(D) mm
Weight	: 1.55 kg

*Specifications and the design are subject to possible modification without notice due to improvements.

Technische Daten*

Stromversorgung	: GS 12V (11 – 16V) Testspannung 14,4V Batterieklemme negative an Masse
Klangregler	: Bässe; ± 8 dB bei 100 Hz Höhen; ± 10 dB bei 10 kHz
Stromverbrauch	: Weniger als 2,3A(bei 0,5W)
Max. Ausgangsleistung	: 2 × 20W,
Sinus-Ausgangsleistung	: 2 × 12W, (DIN 45 324, bei 4Ω)
Lautsprecherimpedanz	: 4 – 8Ω
Stereo-Cassettenspieler	
Wiedergabesystem	: Viertelspur-Zweikanal- Stereo
Bandgeschwindigkeit	: 4,76 cm/sek.
Vor/Rücklaufdauer	: Weniger als 140 sek, (C-60)
Frequenzgang	: 35 – 12.500 Hz (normale Bänd) 35 – 16.000 Hz (Reineisenband)
Gleichlaufschwankungen	: 0,2% (WRMS) (Mittelwert, bewertet)
Signal/Rauschabstand	: 52 dB
UKW-Stereo-Empfangsteil	
Empfangsbereich	: 87,5 – 108 MHz
Anwendbar Empfindlichkeit (Signal-Rauschabstand 30 dB)	: 8dB/μV
RDS Empfindlichkeit	: 22 dB/μV
Stereoabscheidung	: 35 dB (bei 1 kHz)
AM-Empfangsteil	
MW	
Empfangsbereich	: 522 – 1.602 kHz
Anwendbar Empfindlichkeit (Signal-Rauschabstand 20 dB)	: 24 dB/μV
Abmessungen	: 178(B) x 52(H) x 150(T)mm
Gewicht	: 1,55kg

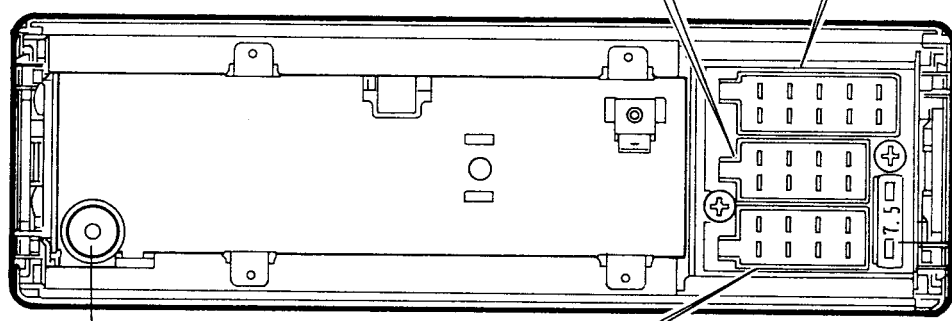
* Technische Daten und Ausführung können sich ändern ohne besondere Ankündigung bei gebührenden Verbesserungen.

Electrical Connection /Verkabelung der Auto-Stereoanlage

FUSE
Be sure to use a fuse of specified rating (7.5A; Order Part No. YEAF02001) when repalacing a blown fuse.
Fuse rated higher capacity, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.
If the replased fuse fails again, contact your nearest dealer.

CN2 (Speaker Connector)
1. Not Used
2. Not Used
3. Right Front Speaker (+)
4. Right Front Speaker (–)
5. Left Front Speaker (+)
6. Left Front Speaker (–)
7. Not Used
8. Not Used

CN1 (External Connector)
1. DATA } 2nd Display Control Connection
2. Clock
3. Enable
4. Not Used
5. Earth
6. External Mute
7. Not Used
8. Right Rear Pre Output
9. Not Used
10. Left Rear Pre Output



Fuse 7.5A

Antenna Receptacle

CN3 (Power Connector)
1. GALA (+)
2. GALA (–)
3. Active Speaker Relay Control
4. Not Used
5. Motor Antenna Relay Control
6. Dimmer Control
7. +B (Power)
8. Earth

Antenna Connection
Length of the cable from the antenna should be as short as possible for best radio reception.

Speaker Connection
Make sure all speaker are connected in the same polarity.

NOTE: Power supply terminal of radio must be connected to a constant power supply of car to maintain the memory.

Operation of Controls

ON/OFF Switch and Volume Control

- Turn clockwise : Switches the power ON. Increases the sound volume.
- Turn counterclockwise : Decreases the sound voloume. Switches the power OFF.

Seek Tuning Button (PUSH)

- The seek starts upon releasing this button after pressing it for 0.5 second or longer.
- When the seek is tried three times from the seek start because of difficulty in receiving the desired broadcasting station on the VF band, a WT (Warning Tone) is issued thereafter (as from the 4th retry)

Cassette Slot

- Insert the cassette with the exposed tape side facing to the right. Gently push the cassette in, and it will be louded automaticaly.
- Insecurity mode, or during WT (Warning tone), or during traffic information input, only loading takes place.

Program Select Button (▲ ▼)

Push the button fully to select the desired direction of tape play, as indicated by the Tape Direction indicator. Otherwise tape direction changes automatically when the tape reaches its end (Auto-Reverse System).

Fast Forward/Rewind Buttons (◀◀ ▶▶)

- If this button is pressed white the tape is playing, the tape will be wound fast forward.
- If this button is pressed while the tape is playing, the tape will be rewound.

Stop

- If this button is pressed during fast forward or rewind, the tape will play again.

Eject

- If both buttons ◀◀ and ▶▶ are simultaneously pressed white the tape is playing, the tape will be ejected.

Auto Reverse

- When the tape comes the end of it in play made, or fast forward mode, or rewind mode, the tape will be automatically reversed.

Eject

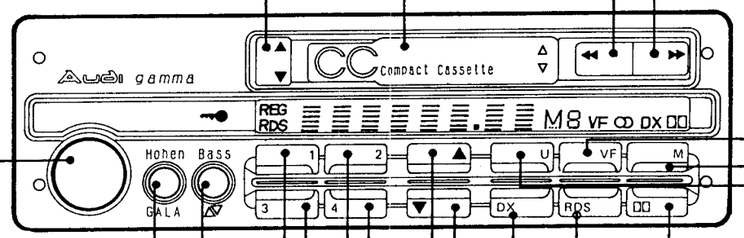
- If power is switched off during tape play, fast forward, or rewind, the tape will be ejected.

Treble Tone Control (Pull this control for use)

- Turn clockwise : Increases the treble tone.
- Turn counterclockwise : Decreases the treble tone.

GALA Control (PULL LOCK)

- Turn clockwise : Increases the GALA effect.
- Turn counterclockwise : Decreases the GALA effect.



Bass Tone Control (Pull this control for use)

- Turn clockwise : Increases the bass tone.
- Turn counterclockwise : Decreases the bass tone.

Fader Control (PULL LOCK)

- Turn clockwise : Increases the rear. (The front is decreased).
- Turn counterclockwise : Increases the front. (The rear is decreased).

Preset Station Selector Buttons

- The desired frequency can be preset to the preset button when any one of (1) to (4) button is pressed.

(Initial frequency setting.)

	CH1	CH2	CH3	CH4
MW	522	999	1404	1602
UKW	87.5	98.1	98.1	108.0

- Make a call by pressing the desired button for less than 2 seconds.
- Muting is put into effect when presetting is done by pressing the button for 2 seconds or longer (for memory)

Up / Down Tuning Button

- When the ▲ or ▼ button is released within 2 seconds. (▲ up, ▼ : down), the frequency is stepped up or down by 1 instantaneously.
- When the ▲ or ▼ button is pressed for 1 second or longer (▲ : up, ▼ : down), fast forward winding is made while the button is being pressed. Muting is in effect during this time. When the button is released, the fast forward winding stops, and normal reception begins.

DX Button (DX)

- A DX / LOC switchover is made whenever this button is pressed.
- DX is displayed during DX, but no display is made during LOC.

Dolby Button (DD)

Press the button on for playback of tape recorded by the Dolby Noise Reduction System.

VF Button (VF)

- A switchover is made to the VF band when this button is pressed.
- The stereo indicator lights up during the stereo broadcasting.
- Sensitivity switchover is reset to LOC.
- The auto seek is made immediately after switchover when the broadcasting station is not a VF station.

Band Selector (M / U)

UKW:

- A switchover is made to the UKW band when (u) is pressed.
- The stereo indicator (∞) lights when the stereo broadcasting is selected.
- Sensitivity switchover is reset to LOC.

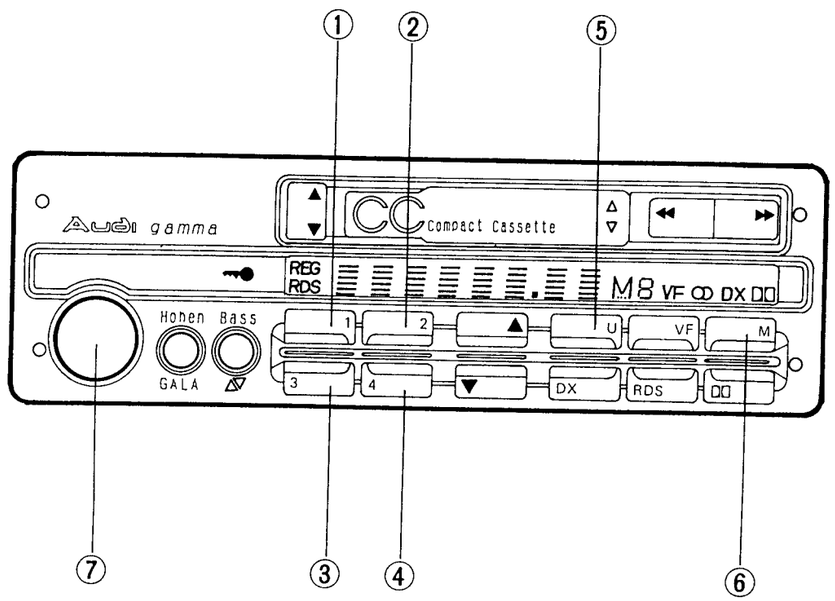
MW:

- A switchover to the MW band is made when (M) is pressed.
- Sensitivity switchover is reser to LOC.

RDS Button (RDS)

- RDS function is switched ON and OFF whenever this button is pressed for less than 2 seconds.
- The RDS indicator turns ON and OFF.
- The REG turns ON and OFF whenever this button is pressed for more than 2 seconds.

Theft Protection Operation



Operation	Display
1. Preparing for write ● Press buttons (5) and (6) simultaneously for 3 seconds.	(Example): 87.5 U (Normal display) After 3 seconds → ␣␣ INPUT ␣␣ After 3 seconds → I ␣ 1000 ␣␣
2. Setting Code number ● Set the same number as the code number on each display seal using buttons (1) to (4). (1) . . . . . Set a space or 1 in the digit of thousands. (2) . . . . . Set 0 ~ 9 in the digit of hundreds. (3) . . . . . Set 0 ~ 9 in the digit of tens. (4) . . . . . Set 0 ~ 9 in the digit of ones.	(Example): Setting 1, 2, 3, 4 Do not press button (1). Press button (2) twice. I ␣ 1200 ␣␣ Press button (3) three times. I ␣ 1230 ␣␣ Press button (4) four times. I ␣ 1234 ␣␣
3. Writing Code ● Press buttons (5) and (6) simultaneously for 3 seconds. When they are released, normal operation starts again.	(Example): I ␣ 1234 After 3 seconds → ␣␣ SAFE ␣␣ → 87.5 U (Normal display)
4. Code check operation ● Turn (7) clockwise and press power switch on. ● When buttons (5) and (6) are simultaneously pressed for 3 seconds the written code is displayed. If they are released and then simultaneously pressed for 3 seconds again, SAFE is displayed. When these buttons are released again, the set returns to normal operation.	(Example): ␣␣ CHECK ␣␣ → C ␣ 1234 (After simultaneously pressing them for 3 seconds) → SAFE ␣␣ (After simultaneously pressing them for 3 seconds again) → 87.5 U (Normal Display)

Bedienung

Netzschalter (ON/OFF) und Lautstärkeregler
- Rechtsdrehung : Schaltet das Gerät ein. Erhöht die Lautstärke.
- Linksdrehung : Vermindert die Lautstärke. Schaltet das Gerät aus.

Suchlauftaste (PUSH)
- Die Taste zum Starten des Suchlaufs mindestens 0.5 sek. gedrückt halten und freigeben.
- Wenn bei Verkehrsfunksuche aufgrund schwieriger Empfangsverhältnisse der Suchlauf drei Mal erfolglos ab Anfang gestertet wurde, ertönt ab dem vierten erneuten Versuch ein Warnton (WT).

Baßregler (Zum Einstellen vorzlehen.)
- Rechtsdrehung : Betont die Baßwiedergabe.
- Linksdrehung : Schwächt die Baßwiedergabe ab.

GALA-Regler (PULL LOCK)
- Rechtsdrehung : Verstärkt den GALA-Effekt.
- Linksdrehung : Schwächt den GALA-Effekt ab.

Höhenregler (Zum Einstellen vorziehen.)
- Rechtsdrehung : Betont die Hochtonwiedergabe.
- Linksdrehung : Schwächt die Hochtonwiedergabe ab.

Faderregler (PULL LOCK)
(Zum Einstellen vorziehen.)
- Rechtsdrehung : Erhöht die Lautstärke hinten (Rücknahme vorn).
- Linksdrehung : Erhöht die Lautstärke vorn (Rücknahme hinten).

Festsendertasten
- Durch Gedrückthalten einer der Tasten (1) bis (4) känn die eingestallte Frequenz als Festsender auf diese abgespeichert werden.

(Anfängliche Werkseinstellung)

	CH1	CH2	CH3	CH4
MW	522	999	1404	1602
UKW	87.5	98.1	98.1	108

- Zum Abrufen eines Festsenders die entsprechende Taste kurz drücken (weniger als 2 Sekunden).
- Beim Abspeichern siner Senderfrequenz durch längeres Gedrückthalten der Taste (mindestens zwei Sekunden) ist die Stummschaltung aktiv.

Cassettenschacht
- Cassetten mit der freien Bandseite nach rechts einlegen. Die Cassette behutsam in den Schacht Schieben, worauf Sie automatisch vom Gerät geladen wird.
- Im gesicherten Austand, währender des Warntons und gei laufender Verkehrsdurchsage wird nur geladen.

Bandlaufrichtungswähler (▲ ▼)
Die Taste leich andrücken, um die Bandlaufrichtung an beliebiger Stelle umzuschalten. Anderenfalls erfolgt die Umschaltung der Bandlaufrichtung am Bandende automatisch (Auto-Reverse-System).

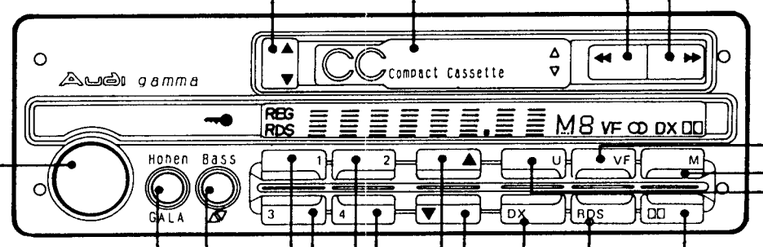
UP/DOWN-Abstimmtasten
- Wenn Taste ▲ oder ▼ (▲: aufwärts, ▼ : abwärts) innerhalb von 2 Sekunden freigegeben wird, erhöht bzw. vermindert sich die eingestellte Frequenz um 1.
- Wenn Taste ▲ oder ▼ (▲ : aufwärts, ▼ : abwärts) eine Sekunde oder länger gedrückt gahalten wird, erfolgt schneller Vor-bzw. Rücklauf bis zum Freigeben der Taste. Während dieser Zeit ist die Stummschaltung wirksam. Auf Loslassen der Taste stoppt der Durchgang und das Gerät schaltet sich auf normalen Empfang.

DX-Taste (DX)
- Zum Umschalten zwischen Orts-und Fernempfang.
- Bei Fernempfang (DX) leuchtet die DX-Anzeige. Für ortsempfrang (LOC) erfolgt keine Anzeige.

Umspultasten (◀◀ ▶▶)
- Wenn diese Taste bei laufender Cassettenwiedergabe gedrückt wird, schaltet sich das Gerät auf Vorspulen.
- Wenn diese Taste bei laufender Cassettenwiedergabe gedrückt wird, schaltet sich das Gerät auf Rückspulen.

Stop
- Wenn diese Taste bei laufendem Umspulen gedrückt wird, schaltet sich das Gerät erneut auf Wiedergabe.

Eject
- Wenn die beiden Tasten ◀◀ und ▶▶ bei laufender Wiedergabe gleichzeitig gedrückt werden, wirft das Gerät die Cassette aus.



Dolbytaste (DD)
Schalten Sie die Taste ein, wenn Ihre Cassette mit dem Dolby Rauschverminderugssystem bespielt wurde.

Auto Reverse
- Auf Erreichen des Bandendes bei laufender wiedergabe oder beim Umspulen schaltet sich das Gerät automatisch auf die andere Cassettenseite um.

Eject
- Wenn bei laufender Wiedergabe oder während des Umspulens die Stromversorgung ausgeschaltet wird, wirft das Gerät die Cassette aus.

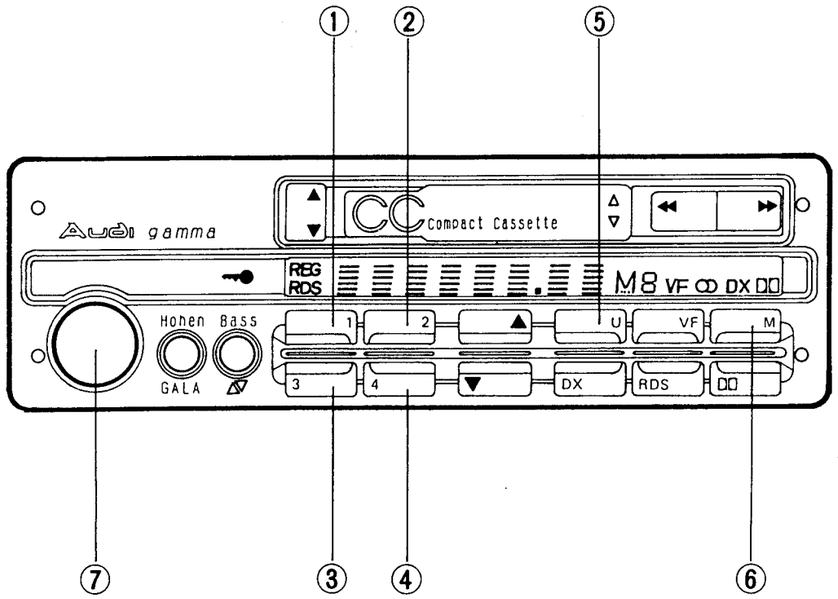
VF-Taste (VF)
- Zum Umschalten auf Verkehrsfunk-Betrieb.
- Beim Empfang von Stereoprogrammen leuchtet die Stereo-Anzeige.
- Die Empfindlichkeit stellt sich auf LOC für Ortsempfang zurück.
- Falls der eingestellte Sender kein Verkehrsfunksender ist, startet automatisch der Suchlauf.

Wellenbereichsschalter (M/U)
UKW :
- Zum Umschalten auf den UKW-Bereich (FM) ist (U) zu drücken.
- Bei Empfang eines Stereoprogramme Isuchtet die Stereo-Anzeige (∞).
- Die Empfindlichkeit stellt sich auf LOC für Ortsempfang zurück.

MW :
- Zum Umechalten auf den MW-Bereich (AM) ist (M) zu drücken.
- Die Empfindlichkeit stellt sich auf LOC für Drtsempfang zurück.

RDS-Taste (RDS)
- Zum Ein-bzw. Ausschalten der RDS-Funktion die Taste kurz drücken (nicht länger ale 2 Sekunden).
- Die RDS-Anzeige zeigt an, ob das Greät auf RDS-Betrieb geschaltet ist.
- Wird die Taste länger äls zwei Sekunden gedrückt gehalten, schaltet sich REG ein bzw. aus.

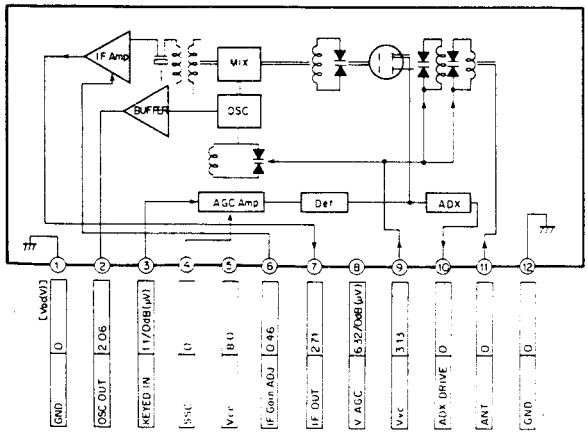
Bedienung des Diebstahlschutz



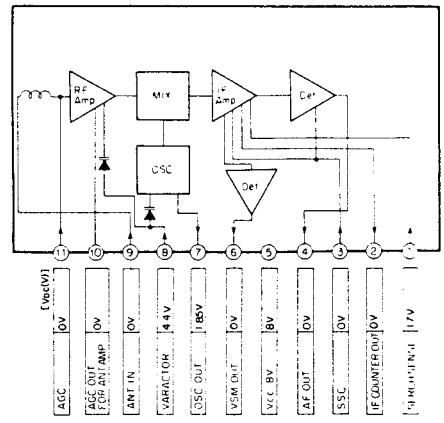
Operation	Display
1. Vorbereitung für Einspeichern • Die Tasten (5) und (6) gemeinsam 3 Sekunden gedrückt halten.	Beispiel: 87.5 U (Normale Anzeige) Nach 3 Sekunden → ⊔⊔ INPUT ⊔⊔ Nach 3 Sekunden → I⊔ 1000 ⊔⊔
2. Einstellen der Code-Nummer • Mit den Tasten (1) bis (4) die Displaystellen auf die gleichen Ziffern stellen wie auf den Display-Aufklebern. (1) . . . . . Auf die Tausender-Stelle eine Leerstelle oder 1 (2) . . . . . 0 - 9 für die Hunderter-Stelle einstellen. (3) . . . . . 0 - 9 für die Zehner-Stelle einstellen. (4) . . . . . 0 - 9 für die Einser-Stelle einstellen.	Beispiel: Einstellen von 1, 2, 3, 4 Nicht Taste (1) drücken. Zweimal Taste (2) drücken. I⊔ 1200 ⊔⊔ Dreimal Taste (3) drücken. I⊔ 1230 ⊔⊔ Viermal Taste (4) drücken. I⊔ 1234 ⊔⊔
3. Einspeichern des Codes • Die Tasten (5) und (6) gemeinsam drei Sekunden gedrückt halten. Mit dem Freigeben schaltet sich das Gerät auf normalen Betrieb zurück.	Beispiel: I⊔ 1234 Nach 3 Sekunden → ⊔⊔ SAFE ⊔⊔ → 87.5 U (Normale Anzeige)
4. Abrufen des Codes • (7) im Uhrzeigersinn drehen und den Netzschalter einschalten. • Wenn die Tasten (5) und (6) gemeinsam drei Sekunden gedrückt gehalten werden, erscheint der eingespeicherte Code in der Anzeige. Wenn sie nach dem Freigeben erneut gemeinsam drei Sekunden lang gedrück werden, erscheint "SAFE". Auf erneutes Freigeben der Tasten schaltet sich das Gerät auf normalen Betrieb zurück.	Beispiel: ⊔⊔ CHECK ⊔⊔ → C⊔ 1234 (Nach gleichzeitigem Drücken für drei Sekunden) → ⊔⊔ SAFE ⊔⊔ (Nach erneutem gleichzeitigem Drücken für drei Sekunden) → 87.5 U (Normale Anzeige)

Package & IC Block Diagram /Package & IC Block Diagramm

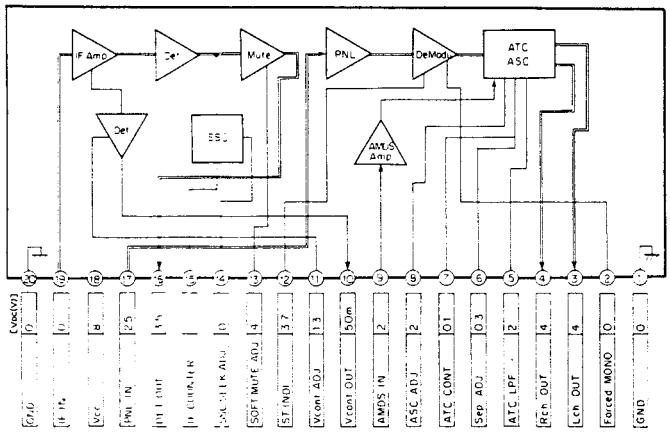
• PA51 YEP0PTS323A0



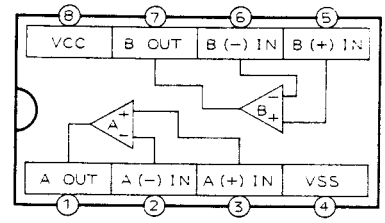
• PA101 YEP0PTS518A0



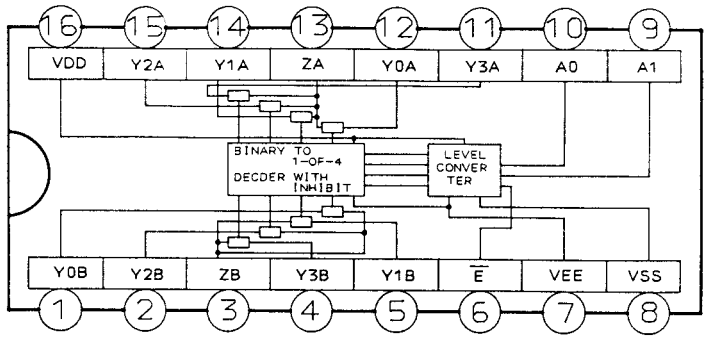
• PA501 YEP0PTS333A0



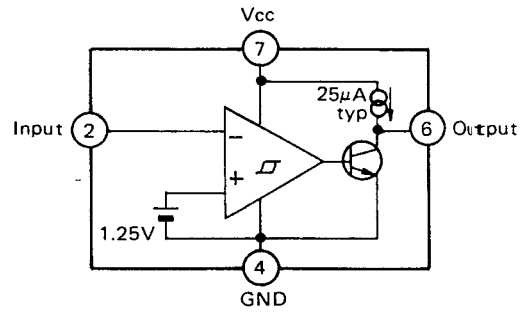
• IC220, 404, 503 YEAMM5218FTI
• IC221, 222, 401, 500 YEAMM5218FT2



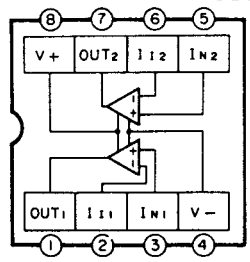
• IC210 YEAMPD4052BG



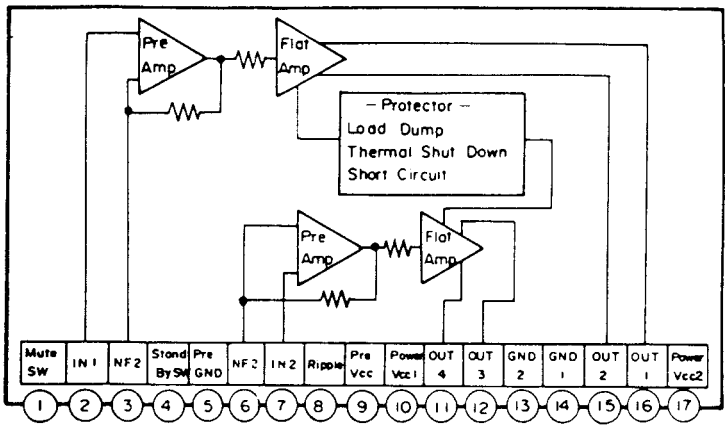
• IC223 YEAMM5222FP



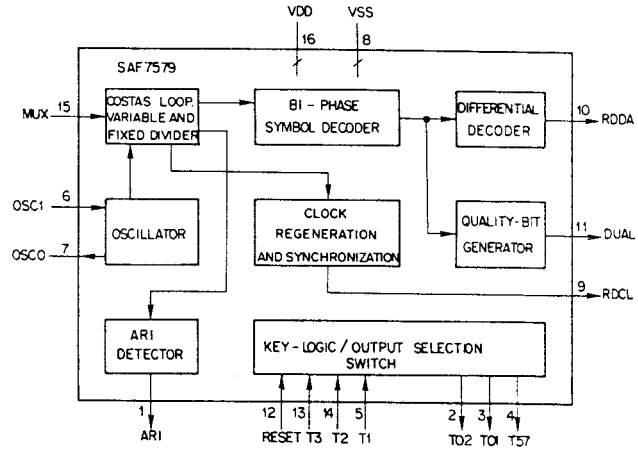
• IC224 YEAMPC358G



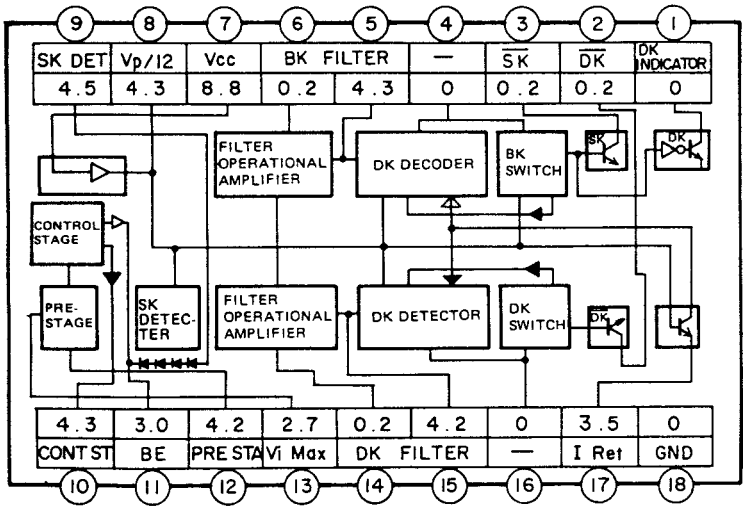
• IC225 YEAMTA8210AH



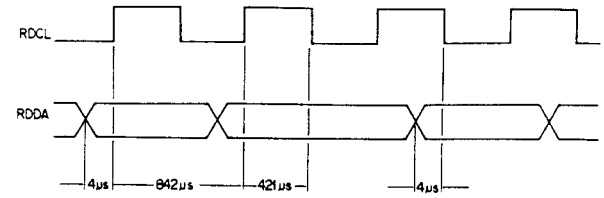
• IC402 YEAMSAF7579T



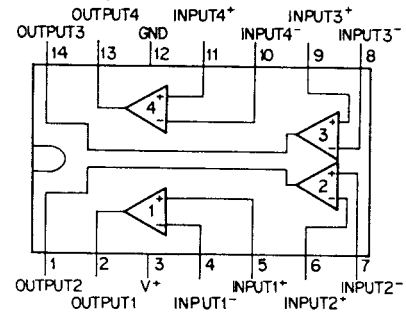
• IC403 YEAMTDA1579T



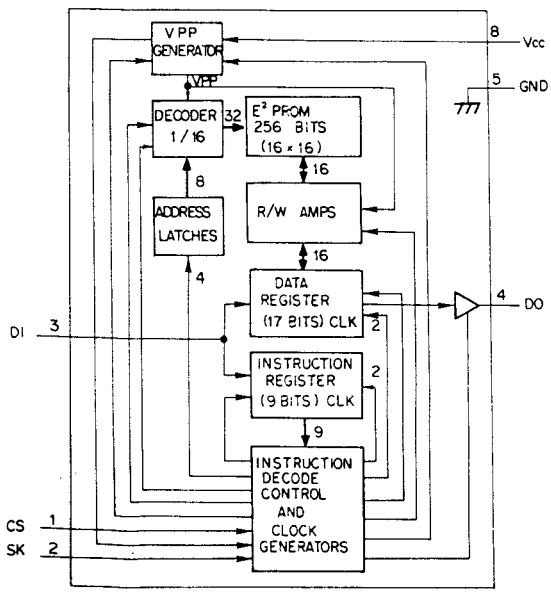
• TIMING CHART (YEAMSAF7579T)



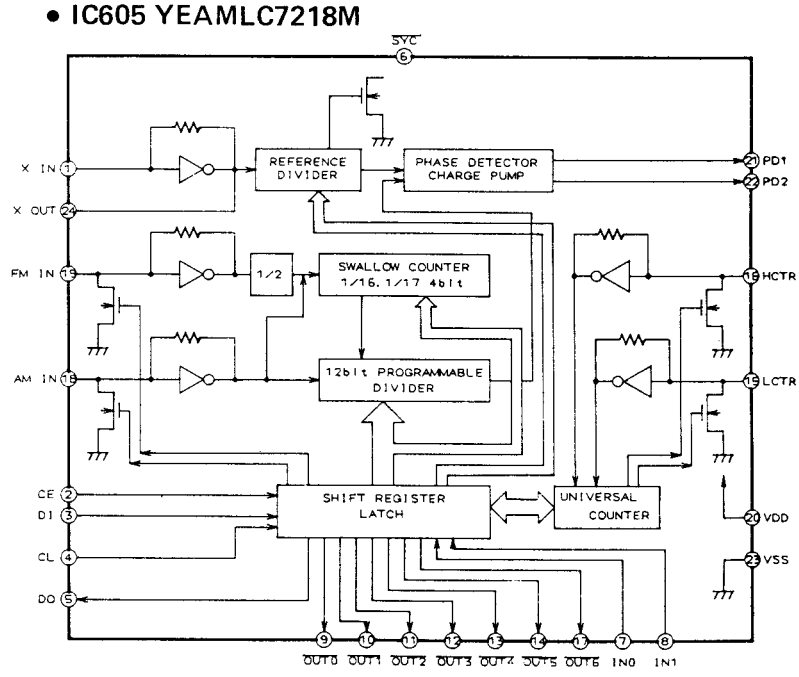
• IC405, 610 YEAMLM2901M



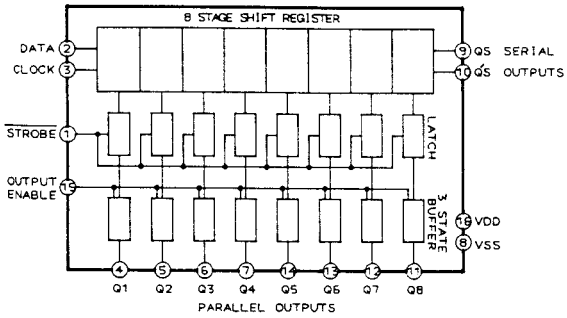
• IC602 YEAMSM161907



• IC605 YEAMLC7218M



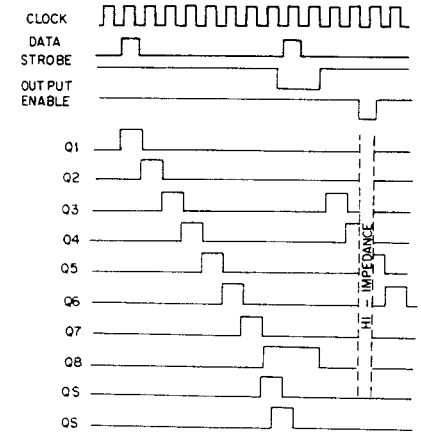
• IC603 YEAMPD4094BG



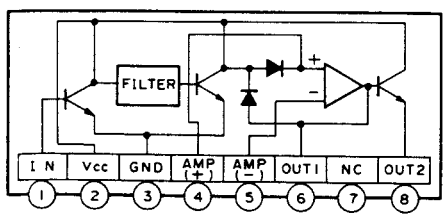
• TRUTH VALUE TABLE (YEAMPD4094BG)

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUT		SERIA OUTPUT	
				Q1	Q_N	Q_S	Q'_S
⌐	L	X	X	High Impedance	High Impedance	Q7	No CHANGE
⌐	L	X	X	High Impedance	High Impedance	No CHANGE	Q8
⌐	H	L	X	No CHANGE	No CHANGE	Q7	No CHANGE
⌐	H	H	L	L	Q_{N-1}	Q7	No CHANGE
⌐	H	H	H	H	Q_{N-1}	Q7	No CHANGE
⌐	H	H	H	No CHANGE	No CHANGE	No CHANGE	Q8

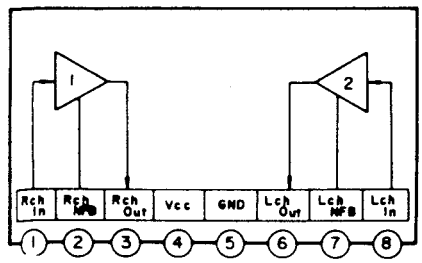
• TIMING CHART (YEAMPD4094BG)



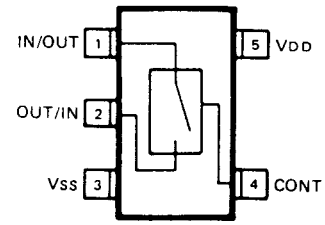
• IC502 YEAMHL23S



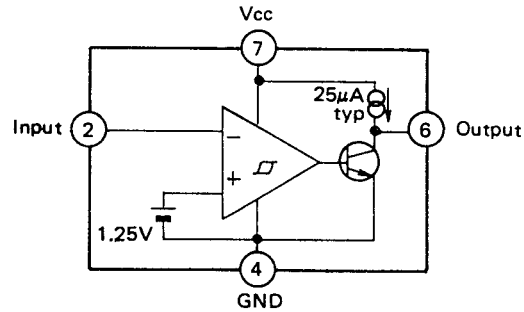
• IC51 YEAMLA3161



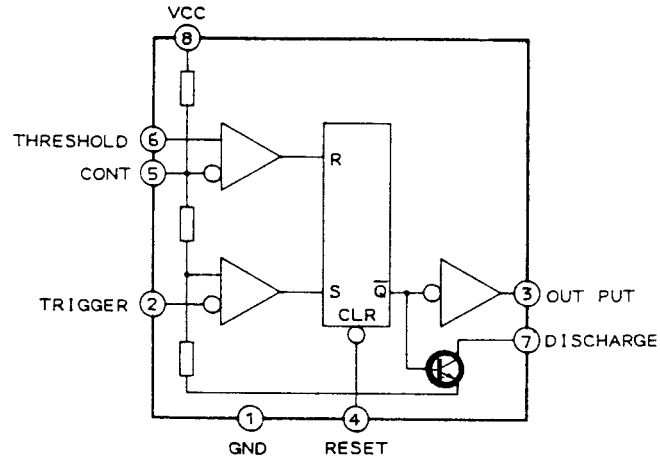
• IC606 YEAMTC4S66FR



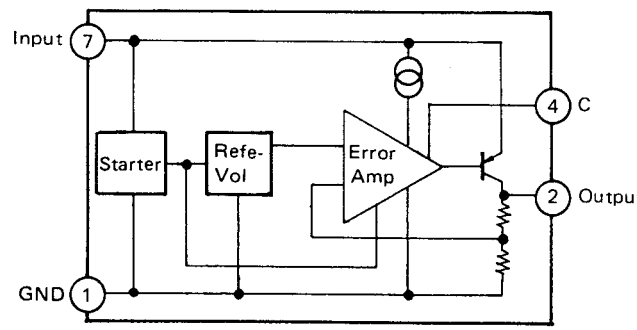
• IC702, 704 YEAMM51945AF/BF



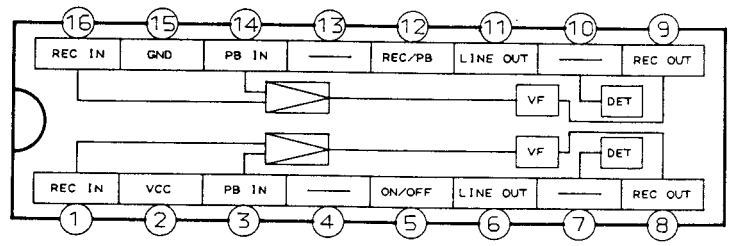
• IC705 YEAMUPD5555CG



• IC706 YEAMLA5010M



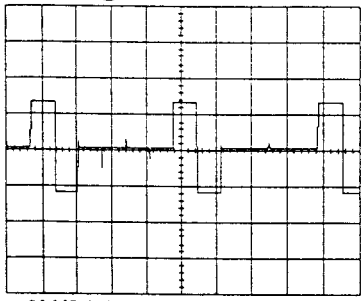
• IC201 YEAMCXA1102M



Operation of LSI/Bedienung des LSI

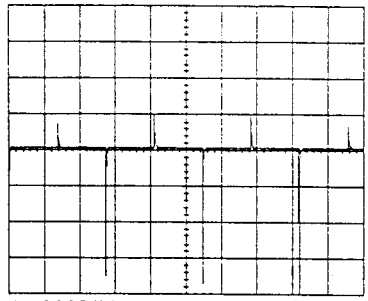
• IC800 YEAMUHD44780

IC800 ① SEG22



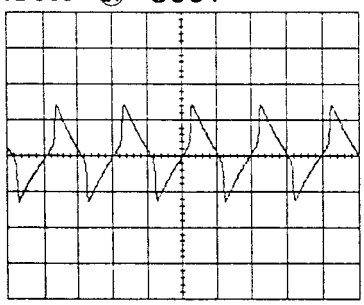
2.0V/DIV, 1mS/DIV

IC800 ㉒ SEG1



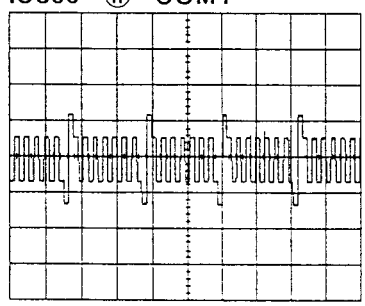
0.5V/DIV, 0.5mS/DIV

IC800 ㉔ OSC1



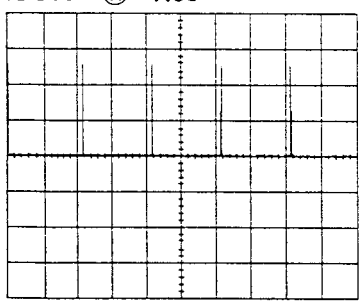
1.0V/DIV, 2.0μS/DIV

IC800 ㊼ COM1

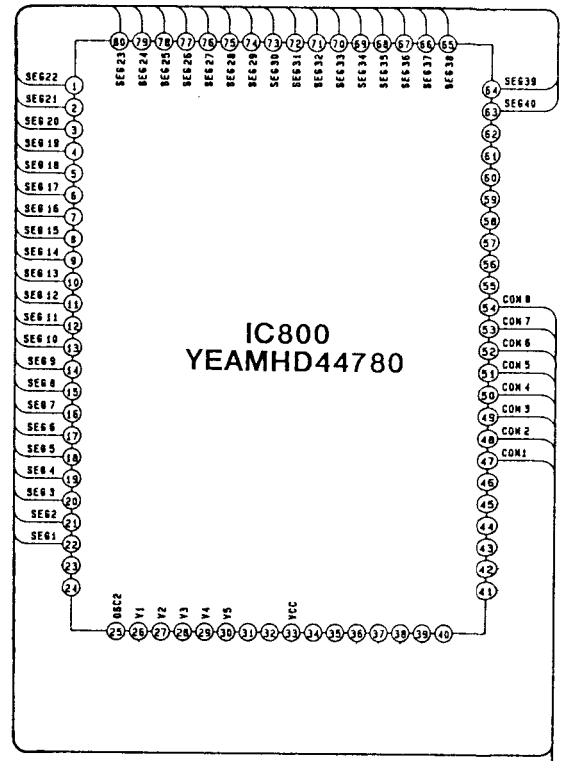


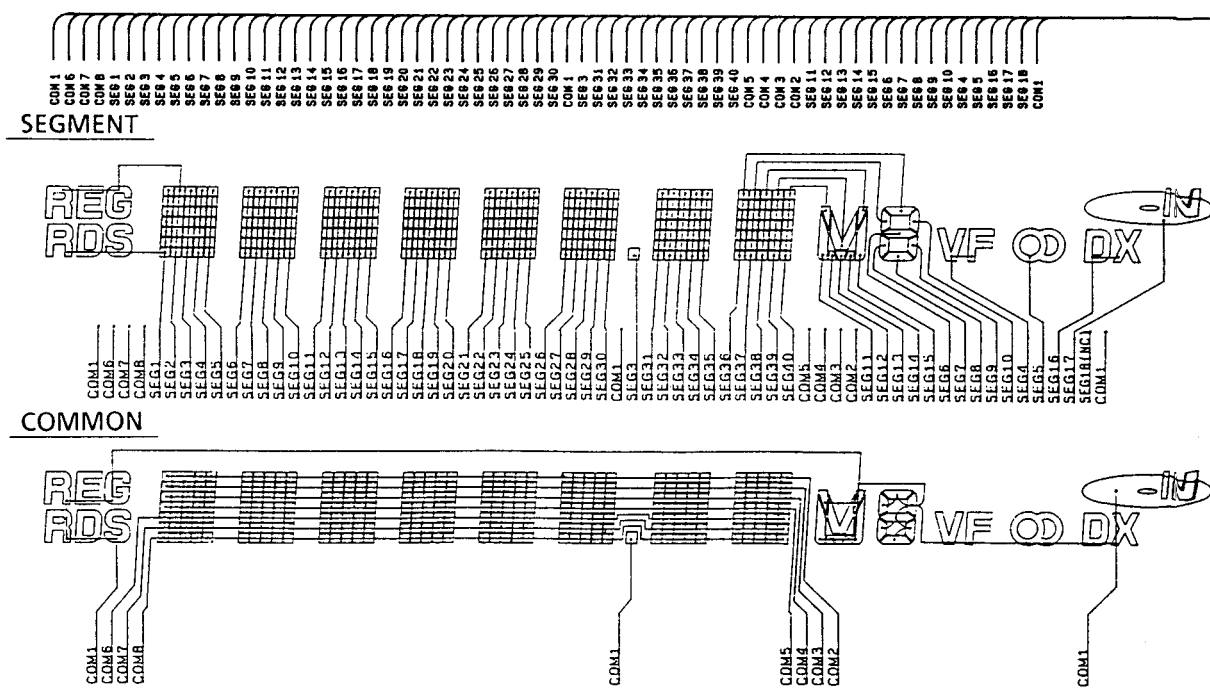
2.0V/DIV, 5mS/DIV

IC800 ㊶ K03



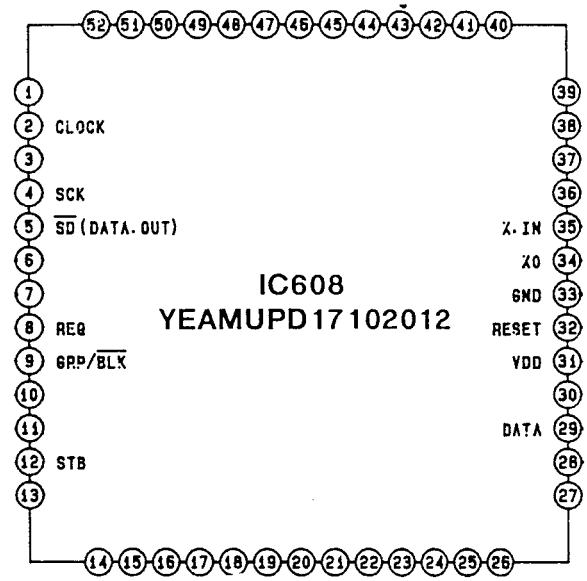
2.0V/DIV, 5.0mS/DIV



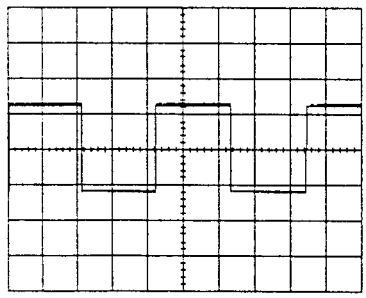


•IC608 YEAMUPD17102012

Pin No.	Port	Discription	I/O
1	——	No Connection	—
2	CLOCK	Clock Input	I
3	——	No Connection	—
4	SCK	Serial Clock Input	I
5	$\overline{SD}$	B/S Detection	O
6,7	——	No Connection	—
8	REQ	Request to RDS Decorder	O
9	GRP/$\overline{BLK}$	RDS Decorder Signal	O
10,11	——	No Connection	—
12	STB	Serial Data Strobe	O
13 to 28	——	No Connection	—
29	DATA	Serial Data Input Terminal	I
30	——	No Connection	—
31	VDD	Power Supply +5	—
32	RESET	System Reset Input	I
33	GND	Ground	—
34	XO	Crystal Oscillator	O
35	XI		I
36 to 52	——	No Connection	—

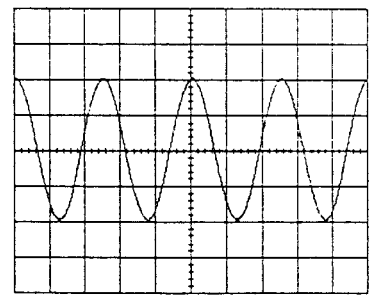


IC608 ② CLOCK



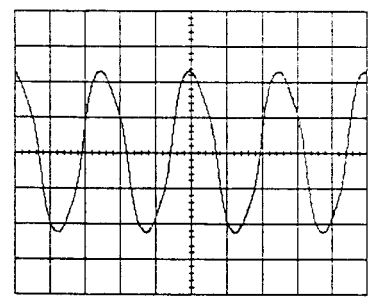
2.0V/DVI, 0.2mS/DVI

IC608 ㉞ IC608



1.0V/DIV, 50nS/DIV

IC608 ㉟ X.IN

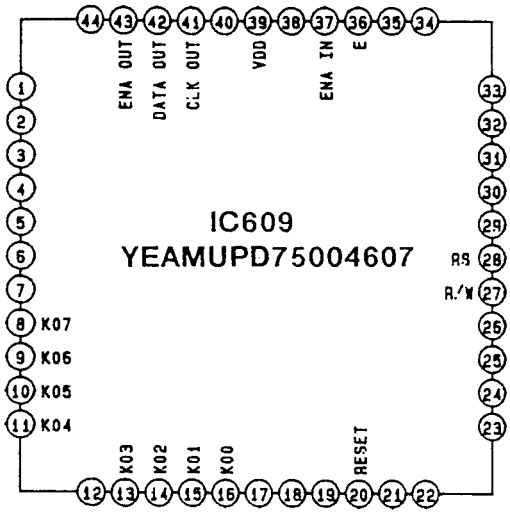


1.0V/DIV, 50nS/DIV

PRECAUTIONS IN HANDLING

(For Prevention of electrostatic fracture)

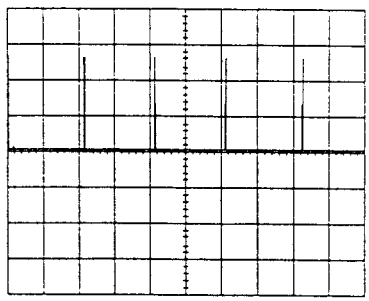
1. Except during operation, keep all terminals in contact with conductive member. (The device is delivered in this condition.)
2. Always connect the tip of soldering iron, tools, and tester to the ground when using.
3. Do not plug or unplug with the power supplied.
4. Never apply signal or voltage with the power off.
5. Keep all unused terminals at Vcc or VDD.
6. Never apply the voltage exceeding the line voltage to the input terminal.



•IC609 YEAMUPD75004607

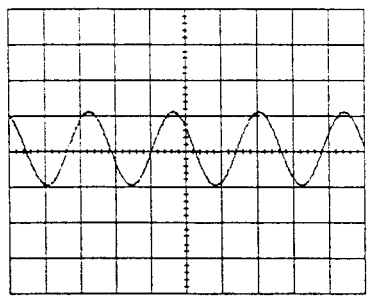
Pin No.	Port	Discription	I/O
1 to 7	———	No Connection	—
8	K07	Key Matrix Output	O
9	K06		O
10	K05		O
11	K04		O
12	———	No Connection	—
13	K03	Key Matrix Output	O
14	K02		O
15	K01		O
16	K00		O
17	GND	Ground	—
20	Reset	System Reset Input Terminal	I
21	XO	Crystal Oscillator	O
22	XI	Crystal Oscillator	I
23 to 26	———	No Connection	—
27	R/W	LCD Control Signal	O
28	RS		O
29 to 35	———	No Connection	—
36	E	LCD Control Signal	O
37	ENA IN	Enable Input	I
38	———	No Connection	—
39	VDD	Power Supply +5	—
40	———	No Connection	—
41	CLK OUT	Clock Output	O
42	DATA OUT	Data Output	O
43	ENA OUT	Enable Output	O
44	———	No Connection	—

IC609 ⑪ K04



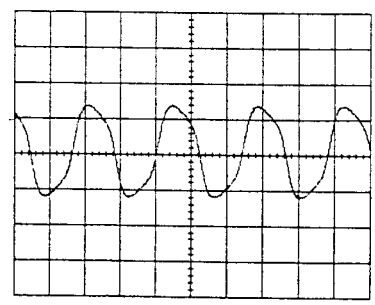
2.0V/DIV, 0.1μS/DIV

IC609 ㉑ XO

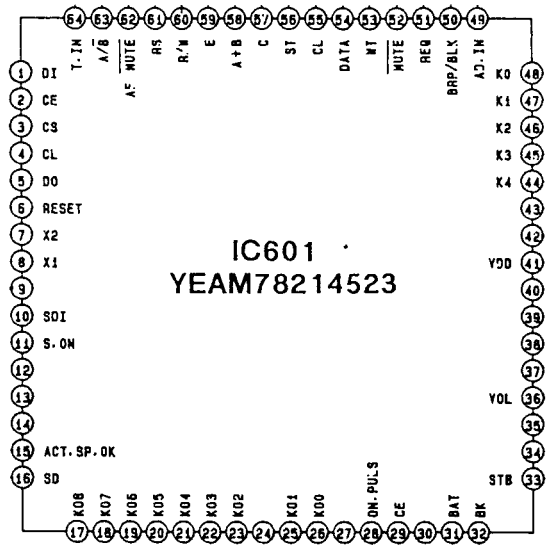


2.0V/DIV, 0.1μS/DIV

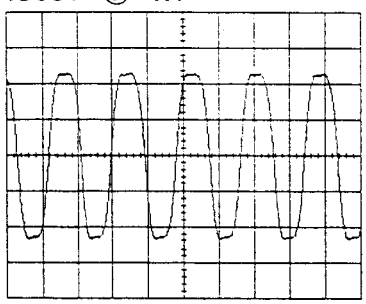
IC609 ㉒ XI



2.0V/DIV, 5.0mS/DIV

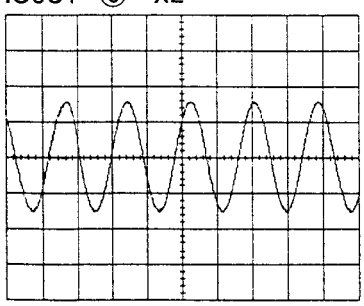


IC601 ⑦ X1



0.1V/DIV, 50nS/DIV

IC601 ⑧ X2

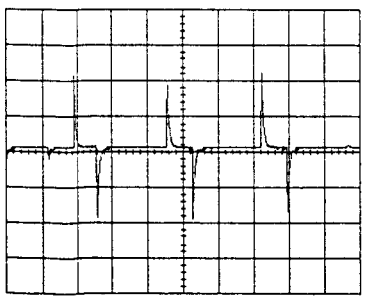


1.0V/DIV, 50nS/DIV

•IC601 YEAM78214523

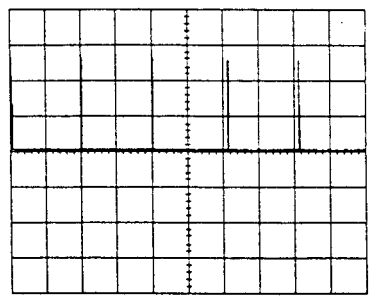
Pin No.	Port	Discription	I/O
1	DI	Serial data from PLL	I
2	CE	Chip Enable for PLL	O
3	CS	Chip Select for NV-RAM	O
4	CL	Serial Clock for NV-RAM	O
5	DO	Serial Data for NV-RAM	O
6	RESET	Reset Input	I
7	X1	Crystal Oscillator	I
8	X2	Crystal Oscillator	O
9	——	(Connecting GND)	——
10	SD 1	Serial Data for NV-RAM	——
11	SYS.ON	Power Control for Audio System	O
12 to 14	NC	Non Connection	——
15	ACT.ON	Active Amp Control	O
16	SD	B/S Detection	I
17 to 23	K08toK02	Key Matrix Output	O
24	Vss	Ground	——
25,26	K01,K00	Key Matrix Output	O
27	NC	Non Connection	——
28	ON.PLUS	S-CONT in Signal	——
29	CE	Chip Enable	I
30	——	Non Connection	——
31	BAT	Battery Level Detection	I
32	BK	BK Output	O
33	STB	Serial Data Strobe	O
34,35	NC	Non Connection	——
36	VOL	Volume Control	O
37 to 39	NC	Non Connection	——
40,41	VDD	+8V Power Supply	——
42	Vss	Ground	——
43	VDD	+8V Power Supply	——
44 to 48	K04toK0	Key Matrix Input	I
49	AD.IN	Analog Signal Input	I
50	GRP/BLK	RDS Decoder Signal	O
51	REQ	Request to RDS Decoder	O
52	MUTE	Mute Control	O
53	WT	Warning tone Output	O
54	DATA	Serial Data Input	I
55	CL	Serial Data Output	I
56	ST	Stereo Indicator	I
57	C	Analog SW Control Signal	O
58	A+B	Analog SW Control Signal	O
59	E	LCD Control Signal	O
60	R/W	LCD Control Signal	O
61	RS	LCD Control Signal	O
62	AF.MUTE	AF Mute Control	O
63	A/B	A/B Selector	I
64	T.IN	Tape in	I

IC601 ⑯ SD



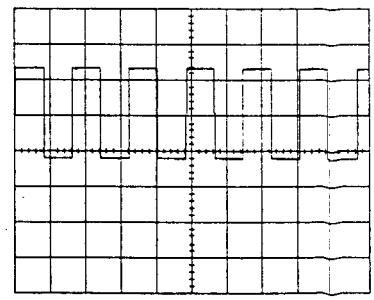
0.1V/DIV, 5μS/DIV

IC601 ⑰ K08



2.0V/DIV, 5mS/DIV

IC601 ⑬ WT

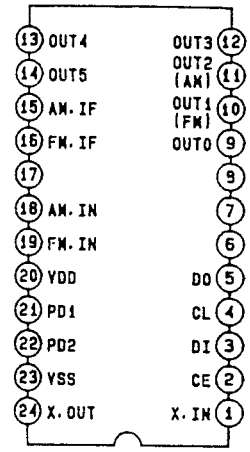


2.0V/DIV, 1.0mV/DIV

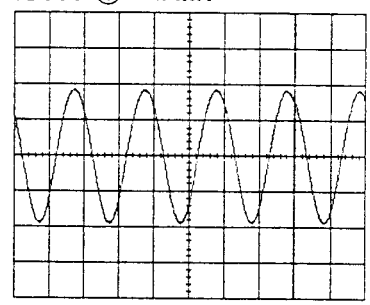
•IC605 YEAMLC7218P

Pin No.	Port	Discription	I/O
1	X,IN	Crystal Oscillator	I
2	CE	Chip Enable	I
3	DI	Serial Data Input	I
4	CL	Serial Clock	I
5	DO	Serial Data Output	O
6 to 8	———	No Connection	—
9	OUT 0	Shipt Register Lach Ouput	O
10	OUT 1		O
11	OUT 2		O
12	OUT 3		O
13	OUT 4		O
14	OUT 5		O
15	AM·IF	AM IF Counter Input	I
16	FM·IF	FM IF Counter Input	I
17	———	No Connection	—
18	AM·IN	AM Oscillator Input	I
19	FM·IN	FM Oscillator Input	I
20	VDD	Power Supply, +5	—
21	PD 1	Phase Detector Change Pomp Output	O
22	PD 2		O
23	Vss	Ground	—
24	X.OUT	Crystal Oscillator	O

IC605
YEAMLC7218P

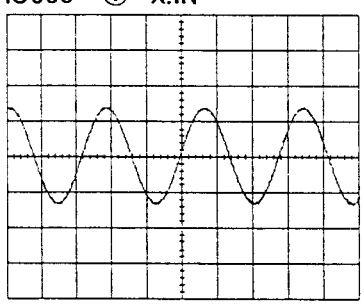


IC605 ⑧ AM.IN



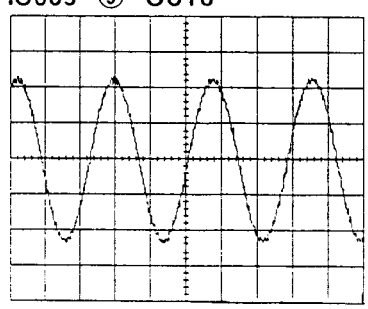
0.2V/DIV, 0.5μS/DIV

IC605 ① X.IN



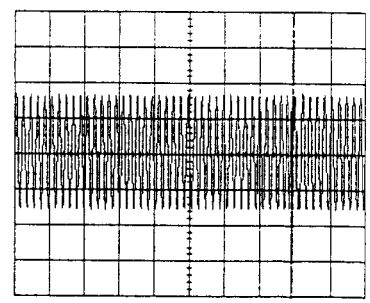
1.0V/DIV, 50nS/DIV

IC605 ⑨ OUT0



20.0mV/DIV, 50nS/DIV

IC605 ⑲ FM.IN



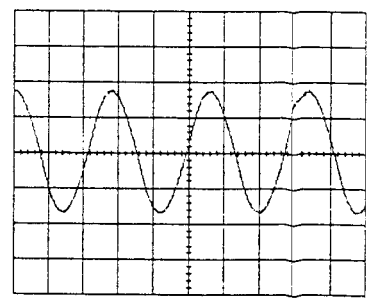
1.0V/DIV, 50nS/DIV

PRECAUTIONS IN HANDLING

(For Prevention of electrostatic fracture)

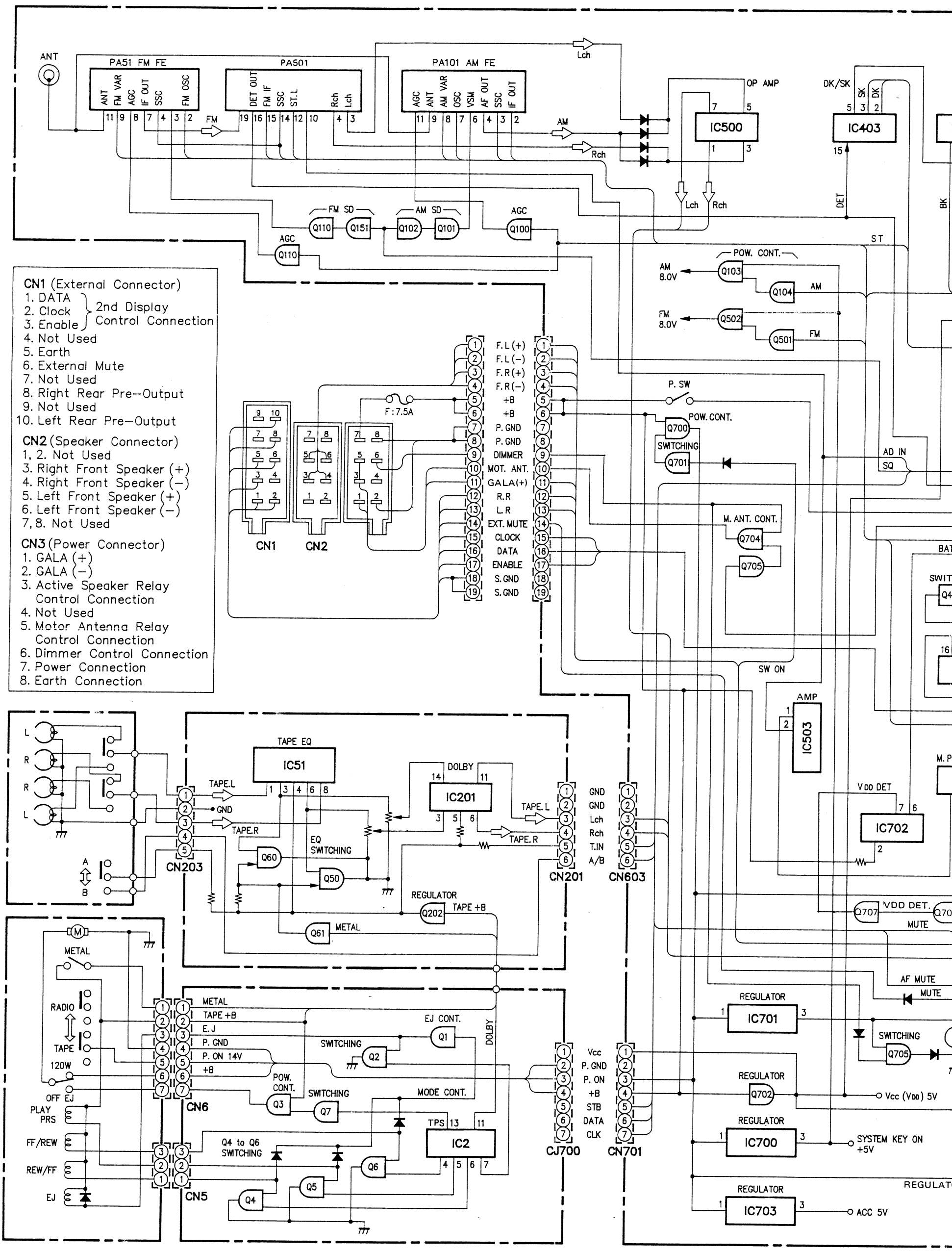
1. Except during operation, keep all terminals in contact with conductive member. (The device is delivered in this condition.)
2. Always connect the tip of soldering iron, tools, and tester to the ground when using.
3. Do not plug or unplug with the power supplied.
4. Never apply signal or voltage with the power off.
5. Keep all unused terminals at Vcc or VDD.
6. Never apply the voltage exceeding the line voltage to the input terminal.

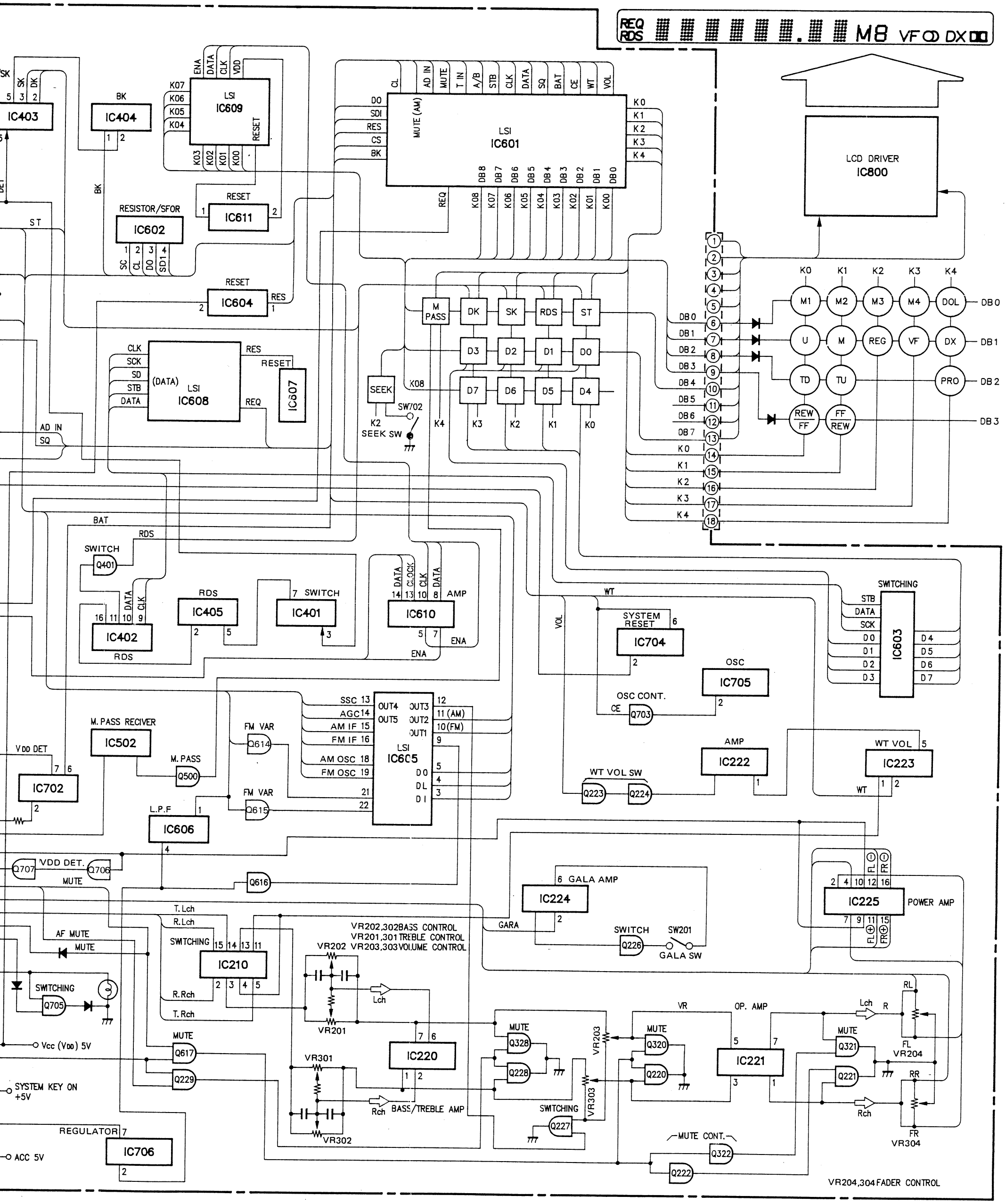
IC605 ㉔ X.OUT



1.0V/DIV, 50nS/DIV

Block Diagram
Block Diagramm
MODEL CQ-LA1020L

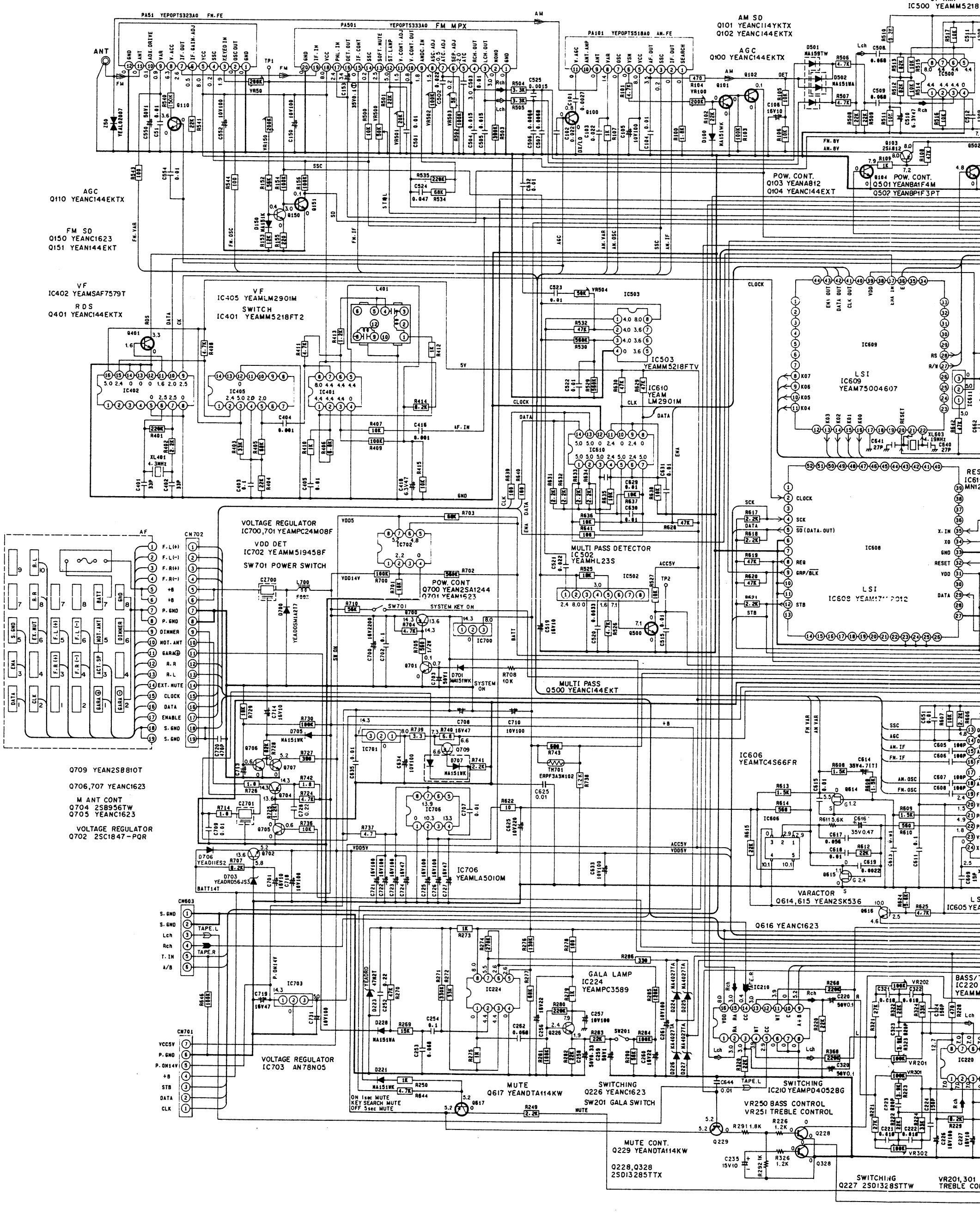


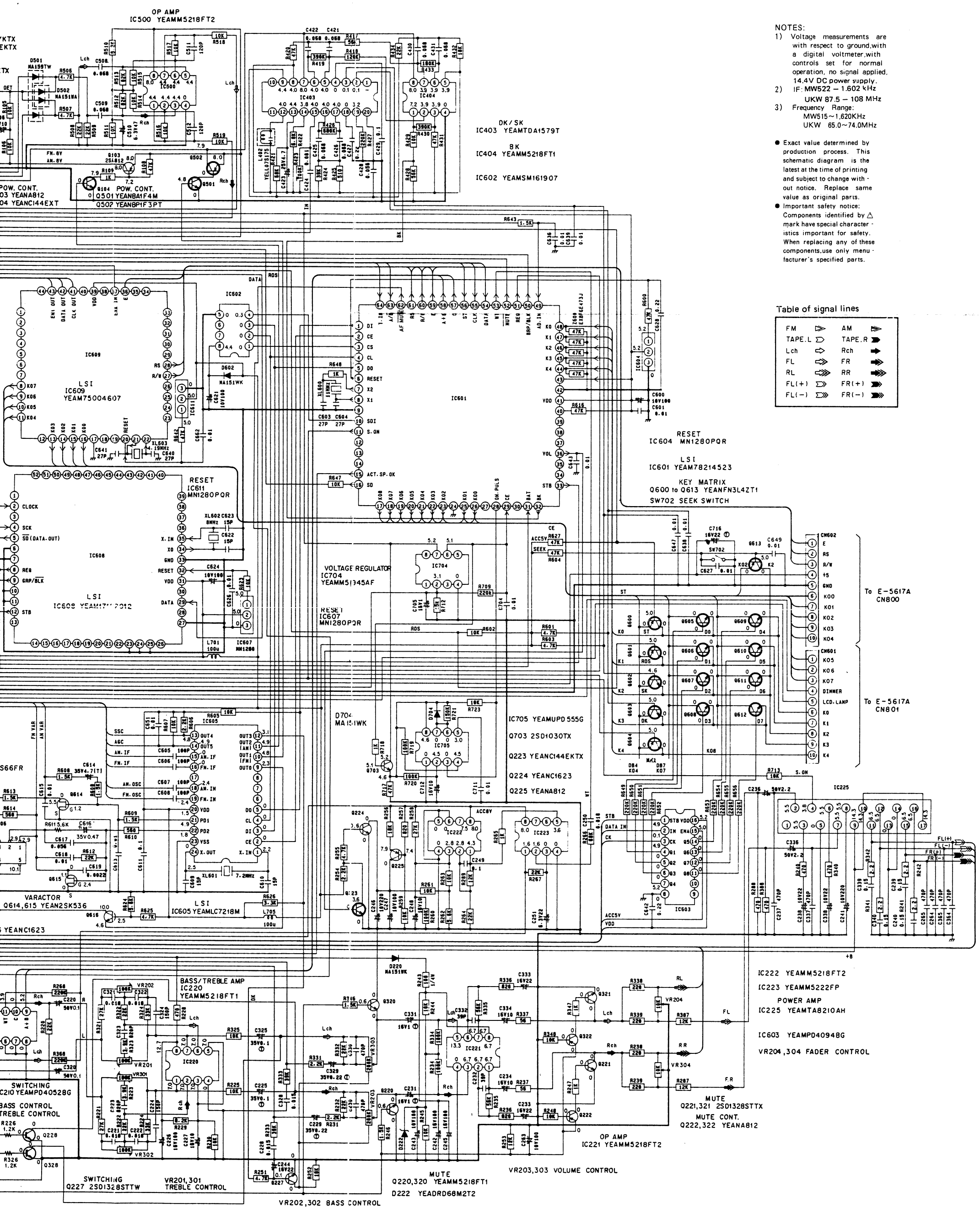


Radio Data System Digital Control Tuner/Casstette Player
Radio-Datensystem-Digital-Kontroll Tuner/Cassettenspieler

Schematic Diagram (Main Block)
Schematisches Diagramm (Haupblock)

MODEL CQ-LA1020L





NOTES:

1) Voltage measurements are with respect to ground, with a digital voltmeter, with controls set for normal operation, no signal applied, 14.4V DC power supply.
2) IF: MW522 – 1.602 kHz
   UKW 87.5 – 108 MHz
3) Frequency Range:
   MW515~1,620KHz
   UKW 65.0~74.0MHz

- Exact value determined by production process. This schematic diagram is the latest at the time of printing and subject to change without notice. Replace same value as original parts.
- Important safety notice: Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Radio Data System Digital Control Tuner/Casstette Player
Radio-Datensystem-Digital-Kontroll Tuner/Cassettenspieler

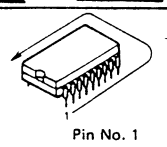
Wiring Diagram (Main Block)
Diagramm Für Verkabelung (Hauptblock)

MODEL CQ-LA1020L

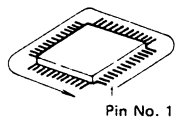
IC & Transistors

(G) (S) (D)
B C E

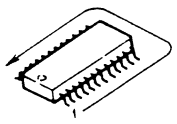
B C E


Pin No. 1

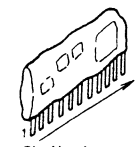
IC402	16Pin


Pin No. 1

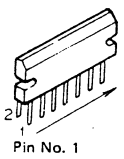
IC601	64Pin
IC608	52Pin
IC609	44Pin


Pin No. 1

IC502	8Pin

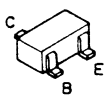

Pin No. 1

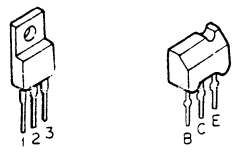
IC210	16Pin	IC705	8Pin
IC403	20Pin	IC500	8Pin
IC706	8Pin	IC503	8Pin
IC401	8Pin	IC404	8Pin
IC405	14Pin	IC224	8Pin
IC222	8Pin	IC221	8Pin
IC605	8Pin	IC223	8Pin
IC602	8Pin	IC220	8Pin
IC603	16Pin	IC702	8Pin
IC610	14Pin	IC704	8Pin


Pin No. 1

IC225	17Pin

• Other Transistor

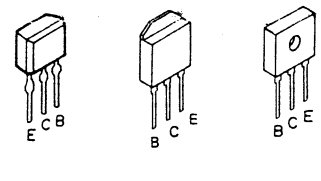




IC701
IC700
IC703

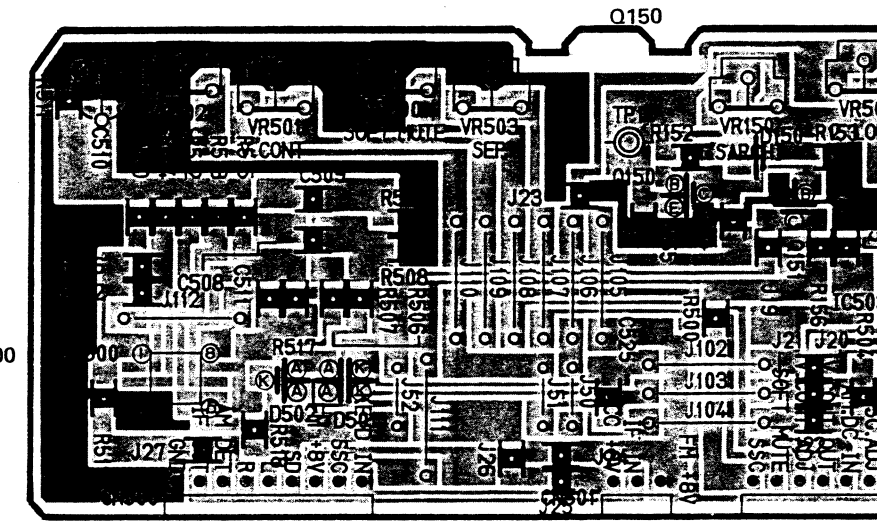
IC604
IC611
IC607

• Q501, 502, 709 • Q700 • Q702



IC500			
1	4.4V	5	4.4V
2	4.4V	6	4.4V
3	4.4V	7	4.4V
4	0V	8	8.0V

IC503			
1	4.0V	5	3.6V
2	4.0V	6	3.6V
3	3.9V	7	7.6V
4	4.0V	8	7.9V



PA101			
1	0V	7	0V
2	0V	8	1.4V
3	0V	9	0V
4	3.5V	10	——
5	8.0V	11	0V
6	0V		

PA51			
1	0V	7	2.6V
2	0V	8	6.3V
3	1.9V	9	0.9V
4	0.2V	10	0.1V
5	7.9V	11	0V
6	0.5V	12	0V

PA501					
1	0V	8	1.5V	15	0V
2	0V	9	1.8V	16	3.4V
3	3.0V	10	0.8V	17	2.4V
4	3.0V	11	1.5V	18	7.9V
5	2.0V	12	5.0V	19	2.6V
6	0.2V	13	2.5V	20	0V
7	0.5V	14	0.2V		

Q102

Q502

Q501	
B	4.8V
C	0V
E	0V

Q502	
B	0V
C	7.9V
E	8.0V

Q102	
B	2.7V
C	0V
E	0V

IC401			
1	4.4V	5	4.4V
2	4.4V	6	4.4V
3	4.4V	7	4.4V
4	0V	8	8.0V

Q501
PA101
IC210

IC210							
1	2.3V	5	2.9V	9	5.2V	13	3.0V
2	3.0V	6	0V	10	0V	14	0.4V
3	3.0V	7	0V	11	3.9V	15	3.0V
4	3.9V	8	0V	12	0V	16	8.0V

IC405
IC222
IC605

IC604	
1	5.2V
2	5.2V
3	0V

IC607	
1	5.0V
2	5.0V
3	0V

IC222			
1	4.3V	5	0V
2	2.8V	6	0V
3	2.8V	7	7.5V
4	0V	8	8.0V

Q614
IC402

Q615	
G	2.4V
D	1.1V
S	0V

Q614	
G	1.2V
D	5.5V
S	0V

IC605							
1	2.2V	7	——	13	4.8V	19	2.4V
2	0V	8	——	14	0V	20	2.4V
3	0V	9	2.3V	15	0V	21	4.9V
4	0V	10	4.8V	16	0V	22	1.8V
5	0V	11	4.9V	17	——	23	0V
6	——	12	3.1V	18	2.4V	24	2.5V

IC607
E-5616a
CN201
IC604

IC402			
1	——	9	2.5V
2	——	10	2.0V
3	——	11	1.6V
4	——	12	0V
5	0V	13	0V
6	2.5V	14	0V
7	2.5V	15	2.4V
8	0V	16	5.0V

IC602			
1	0V	5	0V
2	0V	6	——
3	0V	7	——
4	0.3V	8	4.4V

IC608
IC602
Q600
Q601
Q602
Q613
Q608
Q607
Q605
Q606

Q608	
B	0V
C	0V
E	0V

Q607	
B	0V
C	0V
E	0V

Q605	
B	0V
C	0V
E	0V

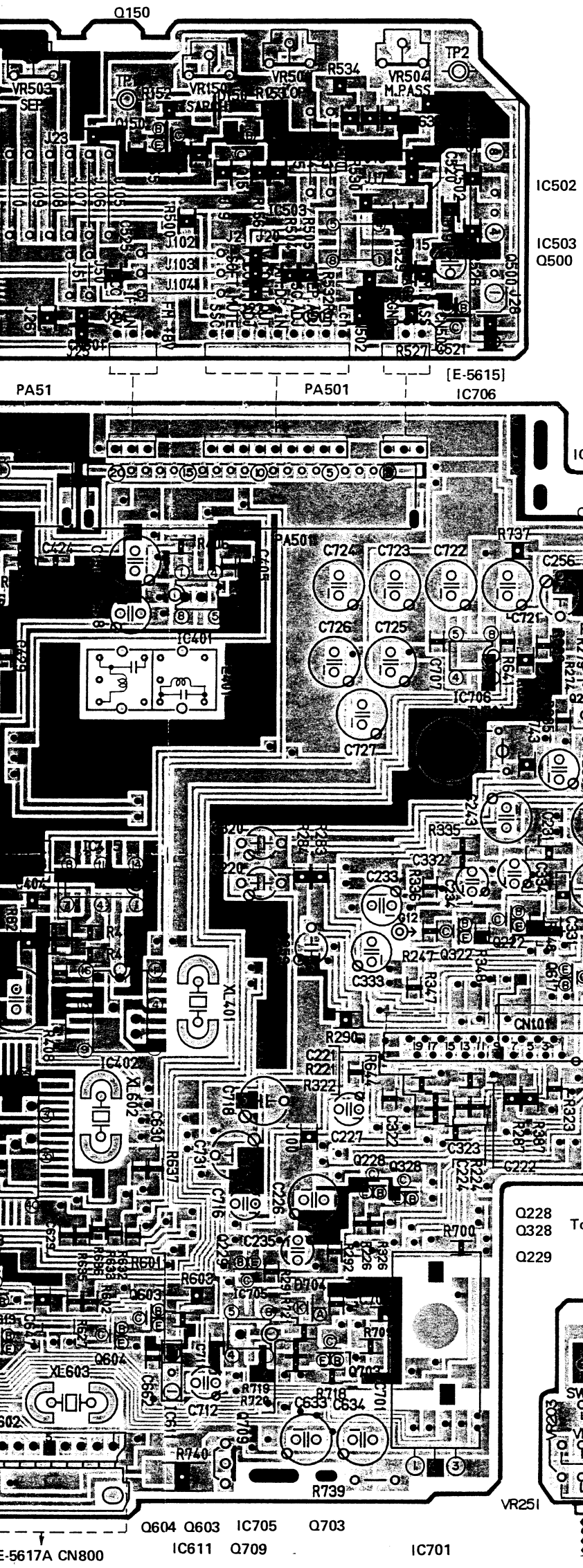
Q606	
B	0V
C	0V
E	0V

Q600	
B	5.0V
C	0V
E	0V

Q602	
B	4.6V
C	0V
E	0V

Q613	
B	5.0V
C	0V
E	0V

IC705			
1	0V	5	3.0
2	4.5V	6	0V
3	0V	7	0V
4	4.5V	8	4.6


Q150
VR503 SEP
VR501
VR502
R534
VR504 M.PASS
TP2
TP1
R532
R530
IC503
IC502
Q500
J102
J103
J104
J2
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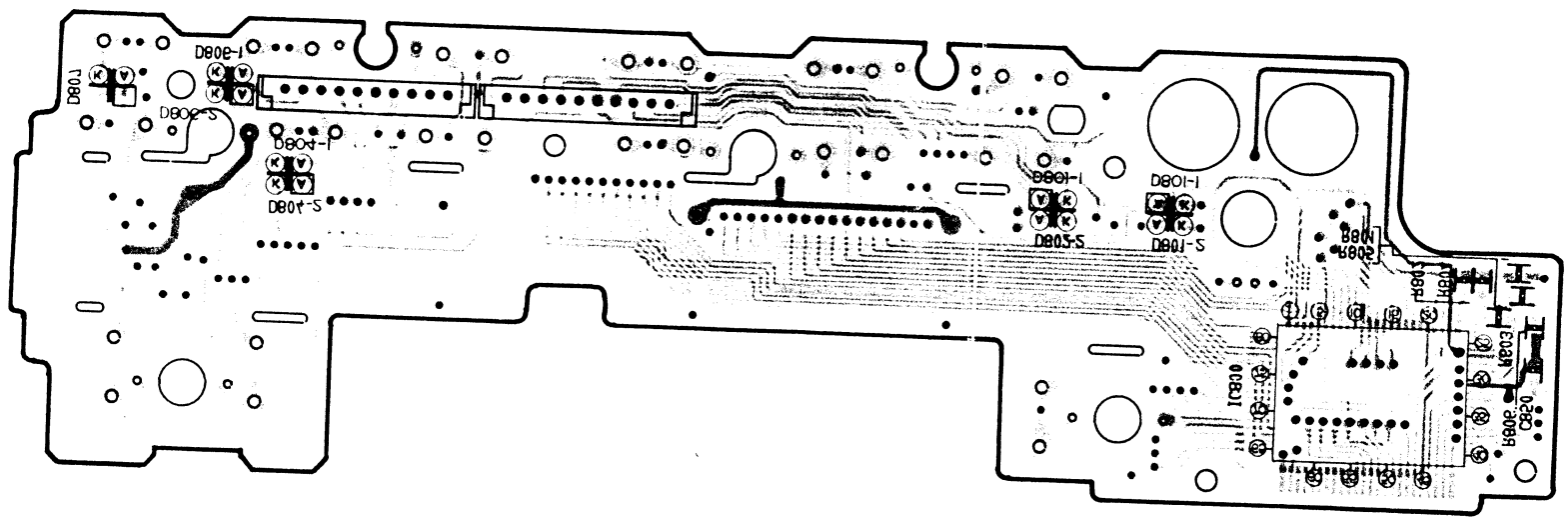
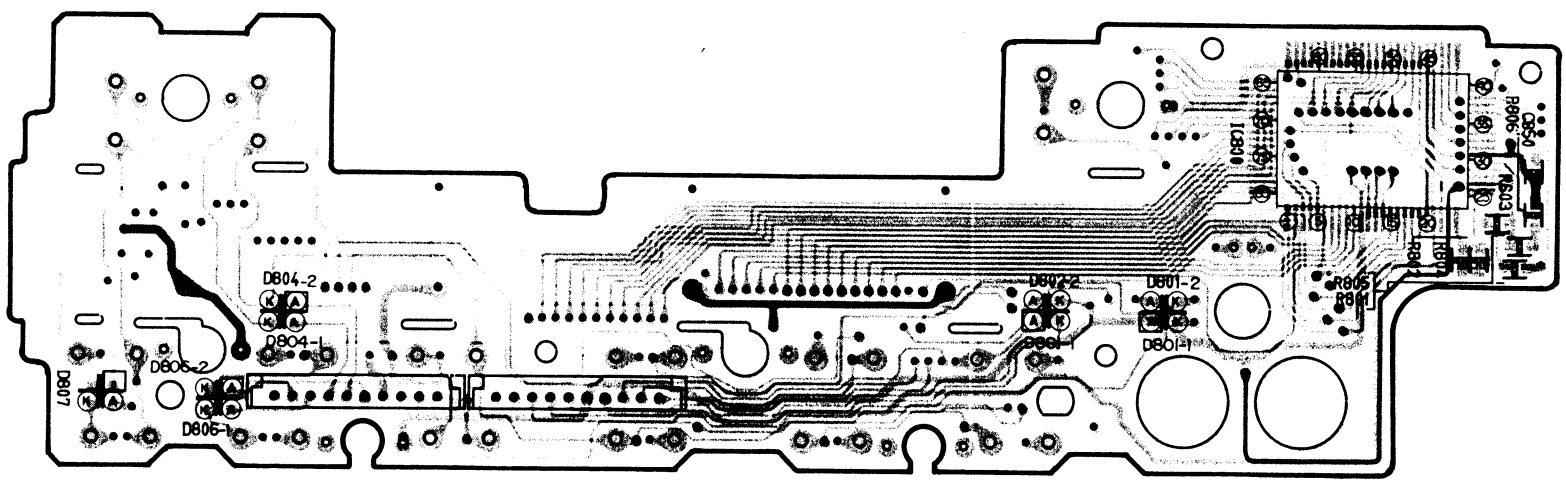
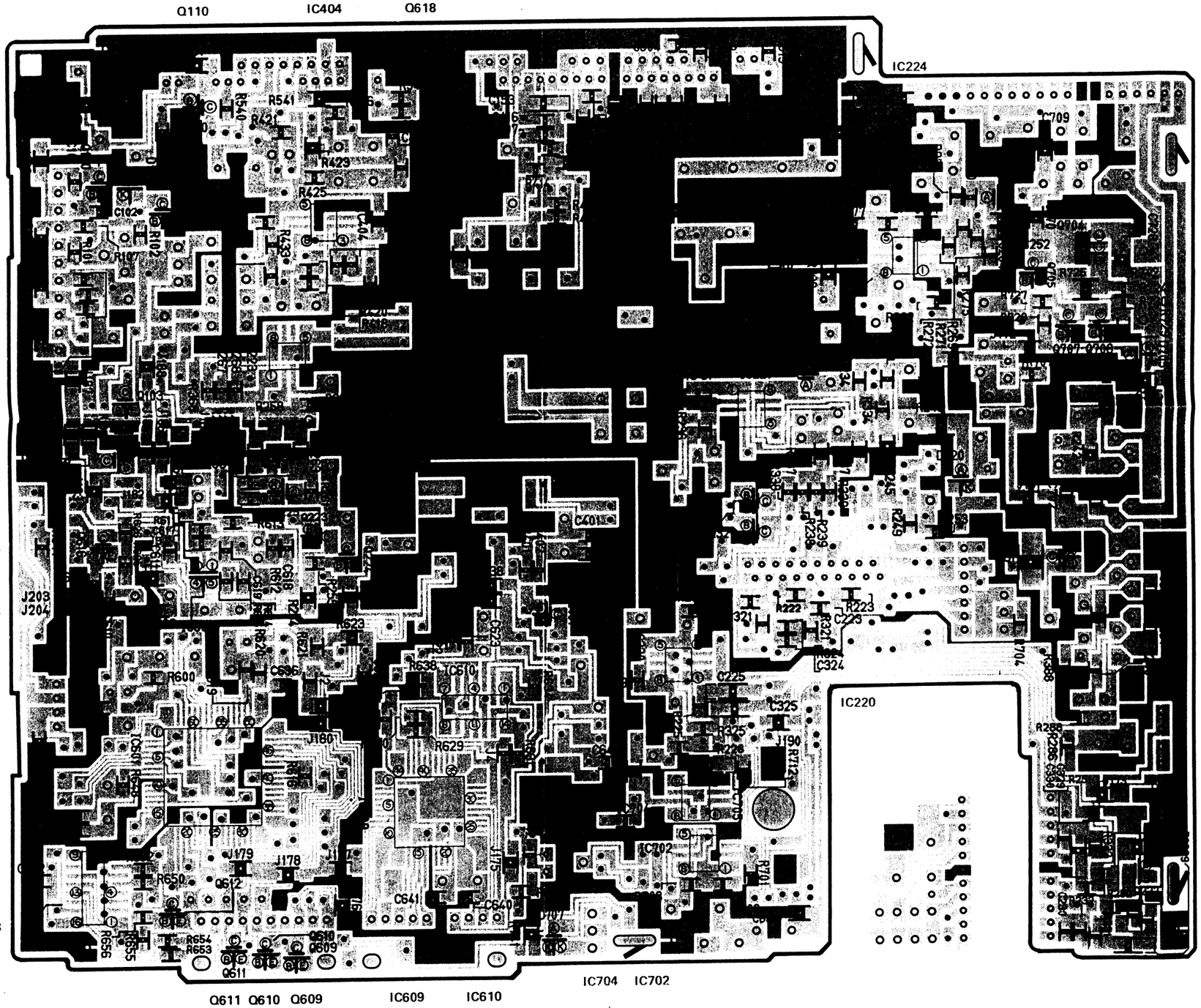
J69


D801-I
D801-S
D802-I
D802-S
D803-I
D803-S
D804-I
D804-S
T801
T802
T803
R801
R802
R803
C801
C802
C803
C804


D804-2
D804-1
D806-2
D806-1
D807
D802-2
D802-1
D801-2
D801-1
R805
R806
C804
C803
LC801



Q110	
B	0V
C	3.6V
E	0V

Q100 (MW)	
B	0V
C	0.8V
E	0V

Q101	
B	0V
C	0V
E	0V

IC404			
1	7.2V	5	3.9V
2	3.9V	6	3.9V
3	3.9V	7	3.9V
4	0V	8	7.9V

IC223			
1	1.6V	5	3.6V
2	1.6V	6	——
3	0V	7	——
4	0V	8	8.0V

Q103 (MW)	
B	7.2V
C	7.9V
E	8.0V

Q104	
B	0V
C	7.9V
E	0V

Q225	
B	7.4V
C	0V
E	7.9V

Q223	
B	0V
C	3.6V
E	0V

Q616	
B	2.5V
C	10.0V
E	4.6V

Q224	
B	0.6V
C	0V
E	0V

IC606	
1	2.9V
2	2.9V
3	0V
4	10.1V
5	10.1V

Q401	
B	1.6V
C	3.3V
E	0V

IC610 (VF)			
1	5.0V	8	0V
2	5.0V	9	2.4V
3	5.0V	10	0V
4	2.4V	11	2.4V
5	5.0V	12	0V
6	2.4V	13	5.0V
7	5.0V	14	5.0V

IC603			
1	4.9V	9	——
2	0.1V	10	——
3	4.9V	11	0V
4	0V	12	0V
5	0V	13	0V
6	0V	14	0V
7	5.2V	15	5.0V
8	0V	16	5.2V

IC224			
1	0V	5	2.6V
2	4.4V	6	2.6V
3	4.4V	7	5.5V
4	0V	8	8.0V.

Q705	
B	0.6V
C	0V
E	0V

Q704	
B	13.6V
C	14.3V
E	14.3V

Q707	
B	0V
C	5.2V
E	0V

Q706	
B	0.6V
C	0V
E	0V

IC221			
1	6.7V	5	13.3V
2	6.7V	6	6.7V
3	6.7V	7	6.7V
4	0V	8	6.7V

Q221	
B	0V
C	0V
E	0V

Q321	
B	0V
C	0V
E	0V

Q701	
B	0.7V
C	0.1V
E	0V

Q227	
B	0V
C	0V
E	0V

Q612	
B	0V
C	0V
E	0V

Q611	
B	0V
C	0V
E	0V

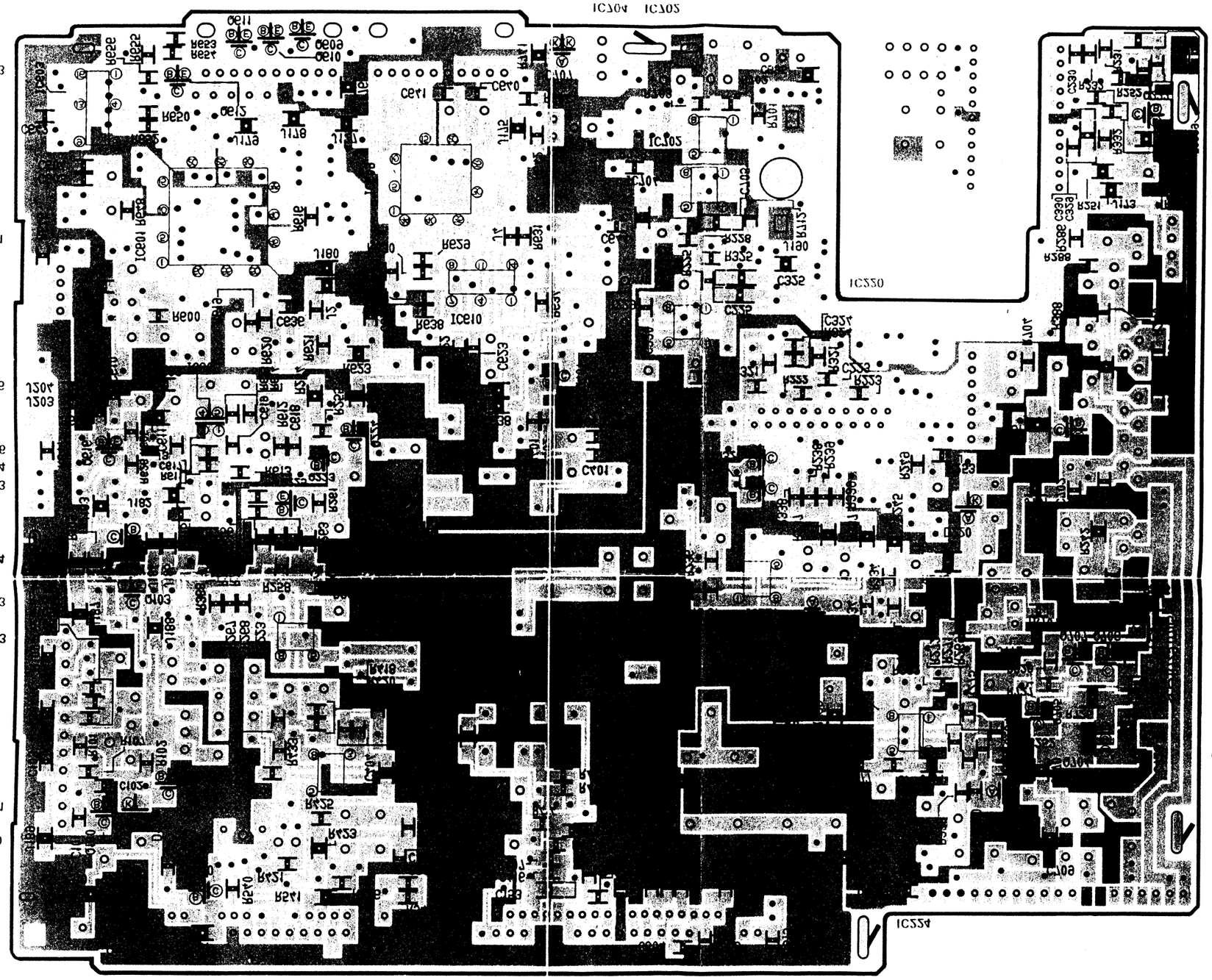
Q610	
B	0V
C	0V
E	0V

Q609	
B	0V
C	0V
E	0V

IC220			
1	7.0V	5	7.0V
2	7.0V	6	7.0V
3	7.0V	7	7.0V
4	0V	8	12.7V

IC704			
1	——	5	——
2	3.1	6	5.1V
3	——	7	5.2V
4	0V	8	——

IC702			
1	——	5	——
2	2.2V	6	4.8V
3	0V	7	5.2V
4	——	8	——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IC5B1
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IC5B3
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IC5B5
IC5B6
IC5B7
IC5B8
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IC5C0
IC5C1
IC5C2
IC5C3
IC5C4
IC5C5
IC5C6
IC5C7
IC5C8
IC5C9
IC5D0
IC5D1
IC5D2
IC5D3
IC5D4
IC5D5
IC5D6
IC5D7
IC5D8
IC5D9
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IC5E2
IC5E3
IC5E4
IC5E5
IC5E6
IC5E7
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IC5E9
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IC5F7
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IC5G1
IC5G2
IC5G3
IC5G4
IC5G5
IC5G6
IC5G7
IC5G8
IC5G9
IC5H0
IC5H1
IC5H2
IC5H3
IC5H4
IC5H5
IC5H6
IC5H7
IC5H8
IC5H9
IC5J0
IC5J1
IC5J2
IC5J3
IC5J4
IC5J5
IC5J6
IC5J7
IC5J8
IC5J9
IC5K0
IC5K1
IC5K2
IC5K3
IC5K4
IC5K5
IC5K6
IC5K7
IC5K8
IC5K9
IC5L0
IC5L1
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IC5U9
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IC5V3
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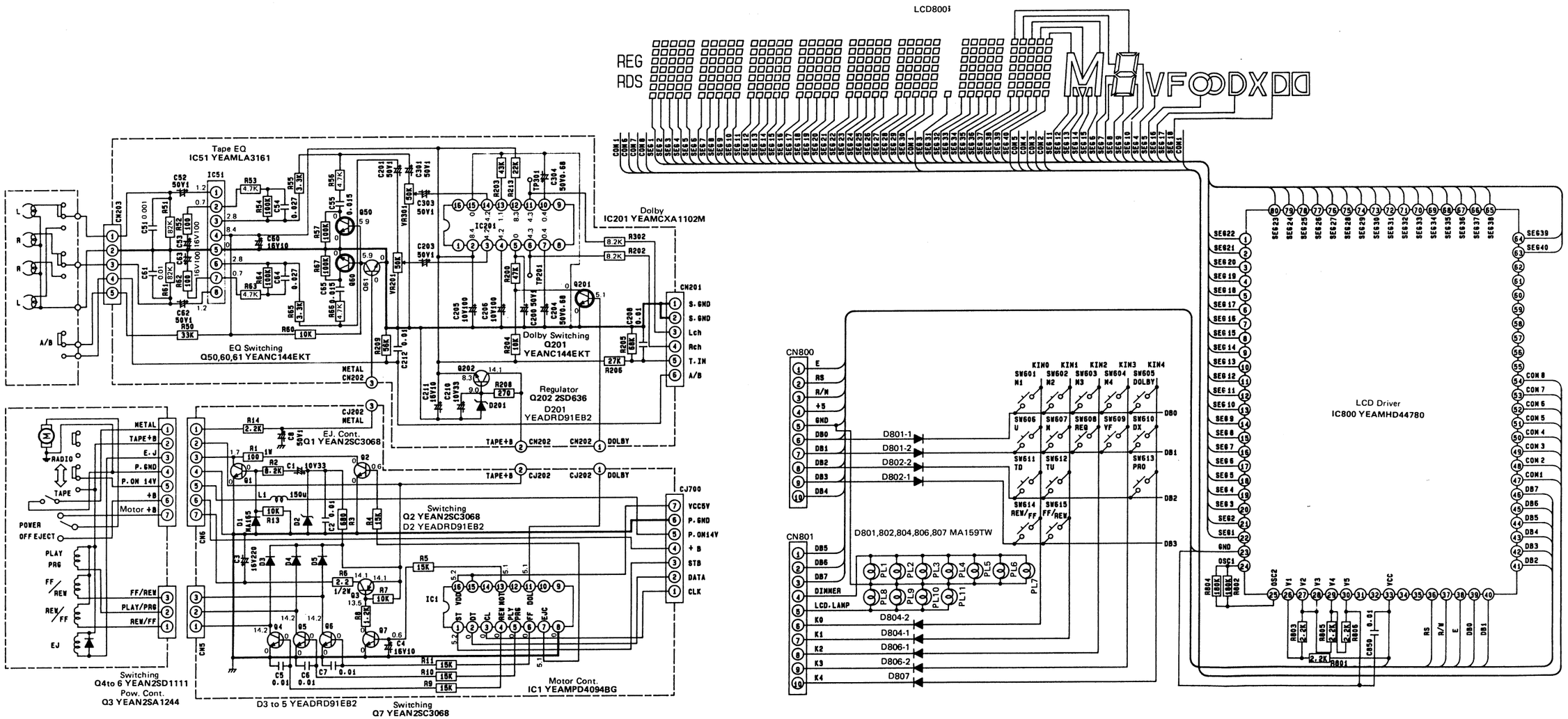
IC5V5
IC5V6
IC5V7
IC5V8
IC5V9
IC5W0
IC5W1
IC5W2
IC5W3
IC5W4
IC5W5
IC5W6
IC5W7
IC5W8
IC5W9
IC5X0
IC5X1
IC5X2
IC5X3
IC5X4
IC5X5
IC5X6
IC5X7
IC5X8
IC5X9
IC5Y0
IC5Y1
IC5Y2
IC5Y3
IC5Y4
IC5Y5
IC5Y6
IC5Y7
IC5Y8
IC5Y9
IC5Z0
IC5Z1
IC5Z2
IC5Z3
IC5Z4
IC5Z5
IC5Z6
IC5Z7
IC5Z8
IC5Z9

Schematic Diagram (Deck, Display Block)
Schematisches Diagramm (Bandblock,Anzeigeblock)

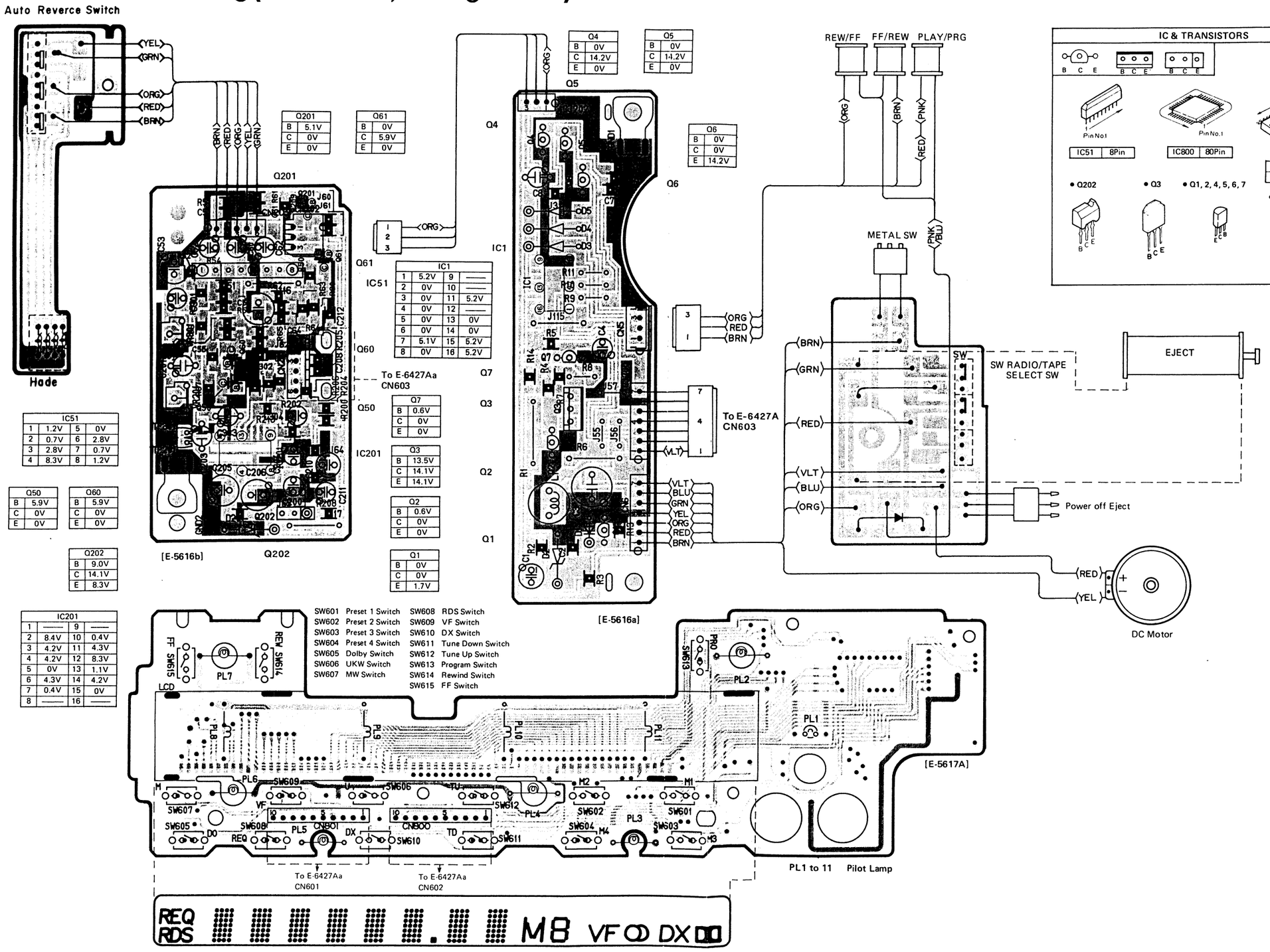
MODEL CQ-LA1020L



Radio Data System Digital Control Tuner/Casstette Player
Radio-Datensystem-Digital-Kontroll Tuner/Cassettenspieler

Wiring Diagram (Deck, Display Block)
Diagramm Für Verkabelung (Bandblock,Anzeigeblock)

MODEL CQ-LA1020L



IC51			
1	1.2V	5	0V
2	0.7V	6	2.8V
3	2.8V	7	0.7V
4	8.3V	8	1.2V

Q50	
B	5.9V
C	0V
E	0V

Q60	
B	5.9V
C	0V
E	0V

Q202	
B	9.0V
C	14.1V
E	8.3V

IC201			
1	——	9	——
2	8.4V	10	0.4V
3	4.2V	11	4.3V
4	4.2V	12	8.3V
5	0V	13	1.1V
6	4.3V	14	4.2V
7	0.4V	15	0V
8	——	16	——

Q201	
B	5.1V
C	0V
E	0V

Q61	
B	0V
C	5.9V
E	0V

Q4	
B	0V
C	14.2V
E	0V

Q5	
B	0V
C	14.2V
E	0V

Q6	
B	0V
C	0V
E	14.2V

IC1			
1	5.2V	9	——
2	0V	10	——
3	0V	11	5.2V
4	0V	12	——
5	0V	13	0V
6	0V	14	0V
7	5.1V	15	5.2V
8	0V	16	5.2V

Q7	
B	0.6V
C	0V
E	0V

Q3	
B	13.5V
C	14.1V
E	14.1V

Q2	
B	0.6V
C	0V
E	0V

Q1	
B	0V
C	0V
E	1.7V

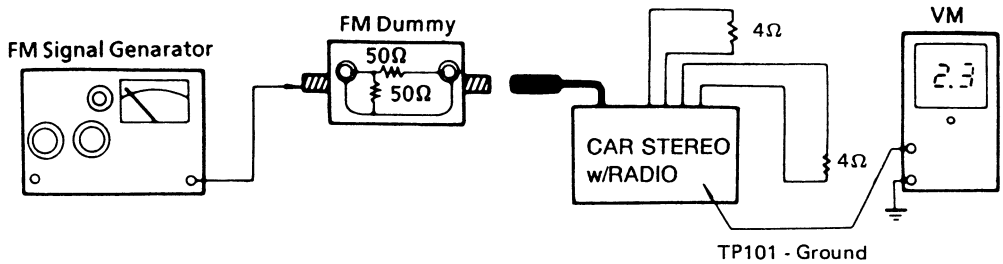
Radio Data System Digital Control Tuner/Casstette Player
Radio-Datensystem-Digital-Kontroll Tuner/Cassettenspieler

Alignment Instructions

- Power Supply Voltage : DC14.4V
- Output Impedance : 4Ω
- Output Power : 0.5W
- Fader Control : Center
- Tone Control (Bass/Tre) : Center
- GALA : Minimum

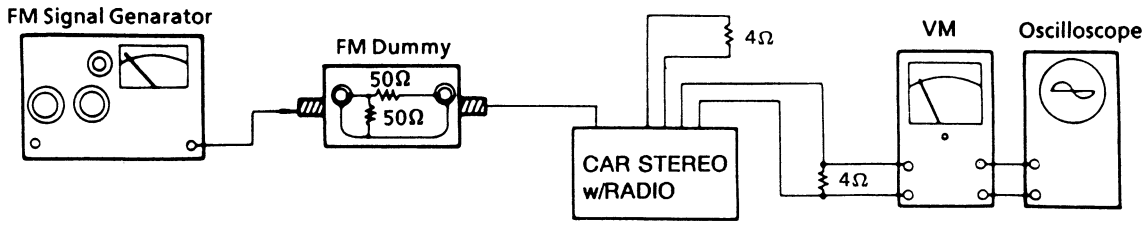
1. FM CONTROL VOLTAGE ALIGNMENT

Step	Alignment Item	Band Select	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
1	FM CONTROL VOLTAGE	FM	98.1 MHz 24 dB/μV	Antenna Receptacle	TP101-Ground	98.1 MHz	VR501	•Adjust for 2.30 ± 0.05 (V)



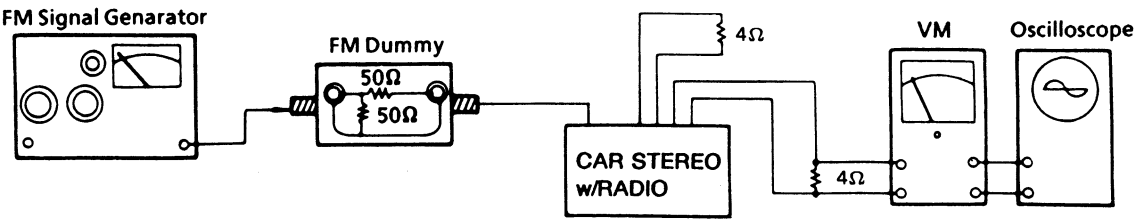
2. FM SOFT MUTE ALIGNMENT

Step	Align-ment Item	Band Se-lect	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
2	FM SOFT MUTE	FM	98.1 MHz 54 dB/μV [400Hz Mod. 30%]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR500	•At this time; output level is 0 dB •Adjust output level for −30dB at −20dB input.



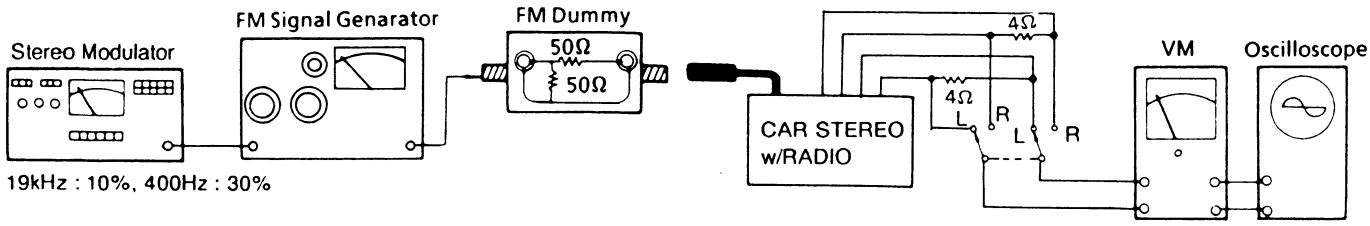
3. FM SEARCH SENSITIVITY ALIGNMENT

Step	Align-ment Item	Band Se-lect	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
3	FM Search Sens.	FM	98.1 MHz 22 dB [400Hz Mod. 30%]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR150	•Set DX mode. •Adjust to stop search tuning at 20 dB input.



4. FM MULTIPLEX SEPARATION ALIGNMENT

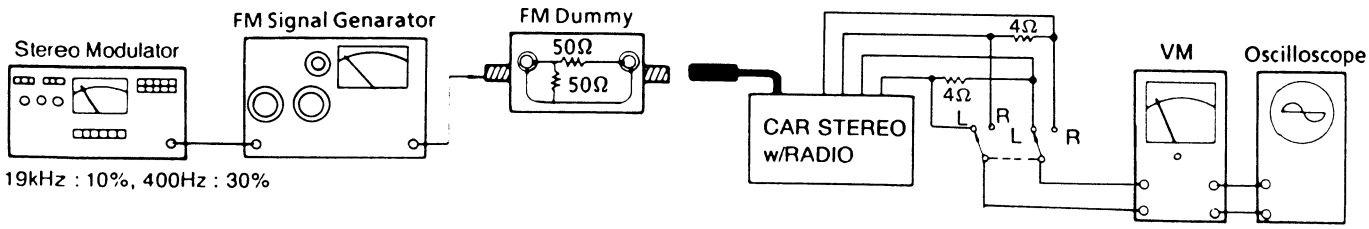
Step	Alignment Item	Band Select	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
4	FM MPX	FM	98.1 MHz 70 dB/μV	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR503	•Adjust for maximum separation.



NOTE : • Be sure to turn VR502 clockwise before making this adjustment.

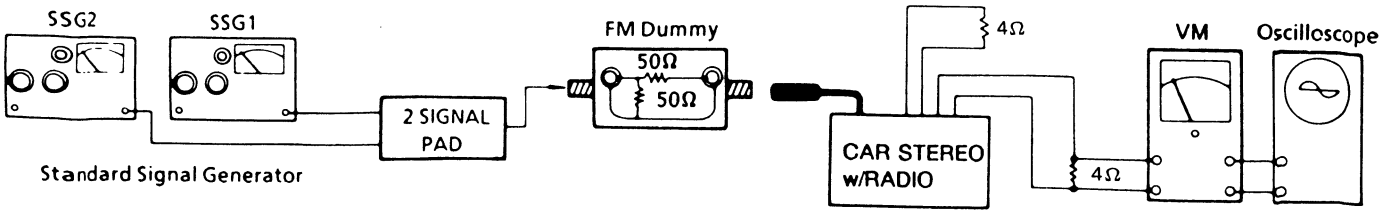
5. FM ASC ALIGNMENT

Step	Alignment Item	Band Select	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
5	FM ASC	FM	98.1 MHz 43 dB/μV	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR502	•Adjust for 20 dB separation at 43 dB/μV input.



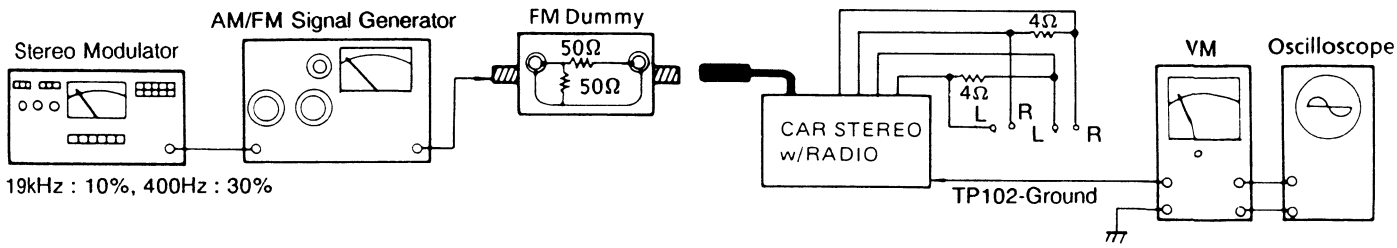
6. FM 2 SIGNAL AGC ALIGNMENT

Step	Alignment Item	Band Select	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
6	2 SIGNAL AGC	FM	f_1: 98.1 MHz 60 dB/μV [400Hz Mod. 30%] f_2: 98.5 MHz 100 dB/μV [Non- Mod.]	Antenna Receptacle	Speaker Terminals	98.1 MHz	VR50	•Set Volume control for output (0 dB) . •SSG1 output to 46 dB/μV and adjust for -3 dB down output.



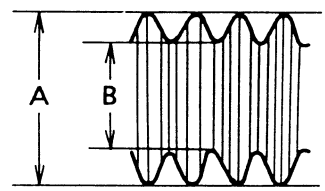
7. MULTI-PATH DETECTIVE LEVEL ALIGNMENT

Step	Align-ment Item	Band Se-lect	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
7	FM MULTI PATH LEVEL	FM	98.1 MHz 54 dB/μV [FM:400Hz 30%] [AM:50kHz 27%]	Antenna Receptacle	TP2	98.1 MHz	VR504	•Adjust multi signal on TP2 start to have pulses (threshold point). Select range 2V/DIV on Oscilloscope.



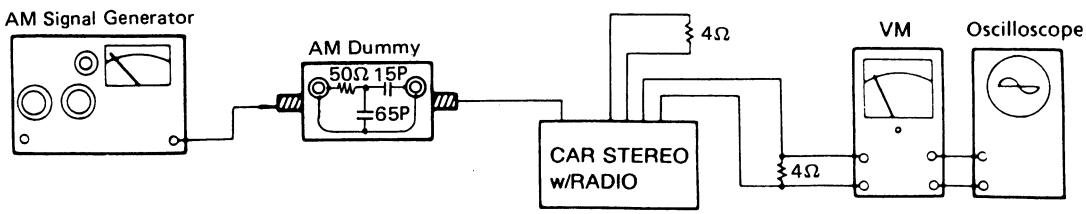
NOTE :
- The osilloscope to be used should be of 100MHz type.
- In calculation of index factor, the output waveform of the OSC should be measured under a 100MHz oscilloscope instead of using the direct read SG. Adjust the ATT of the OSC until A and B shown at right become 27% at :

$$\frac{A-B}{A+B} \times 100\,(\%)$$



8. AM SERCH SENSITIVITY ALIGNMENT

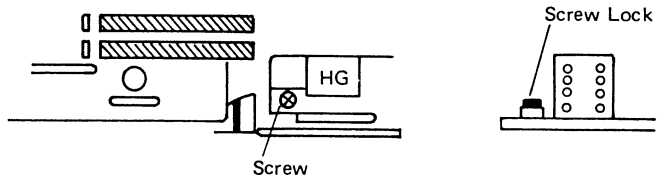
Step	Align-ment Item	Band Se-lect	Signal Generator	Input Terminal	VM Connection	Display	Adjust	Remarks
8	AM Search Sens.	AM	999 kHz 26 dB [400 Hz Mod. 30%]	Antenna Receptacle	Speaker Terminals	999 kHz	VR100	•Set DX mode. •Adjust to stop search tuning at 26 dB input.



9. HEAD AZIMUTH ALIGNMENT

Step	Alignment Item	Test Tape	Input Terminal	VM Connection	Adjust	Remarks
9	Head Azimuth	TCC - 153	Playback Head	Speaker Terminals	Head Azimuth Adjustment Screw	• Adjust for maximum output. • Use + Screw driver. • Make sure frequency Response. • Adjust both sides A and B and both channels L and R. • Lock the screws as shown at left.

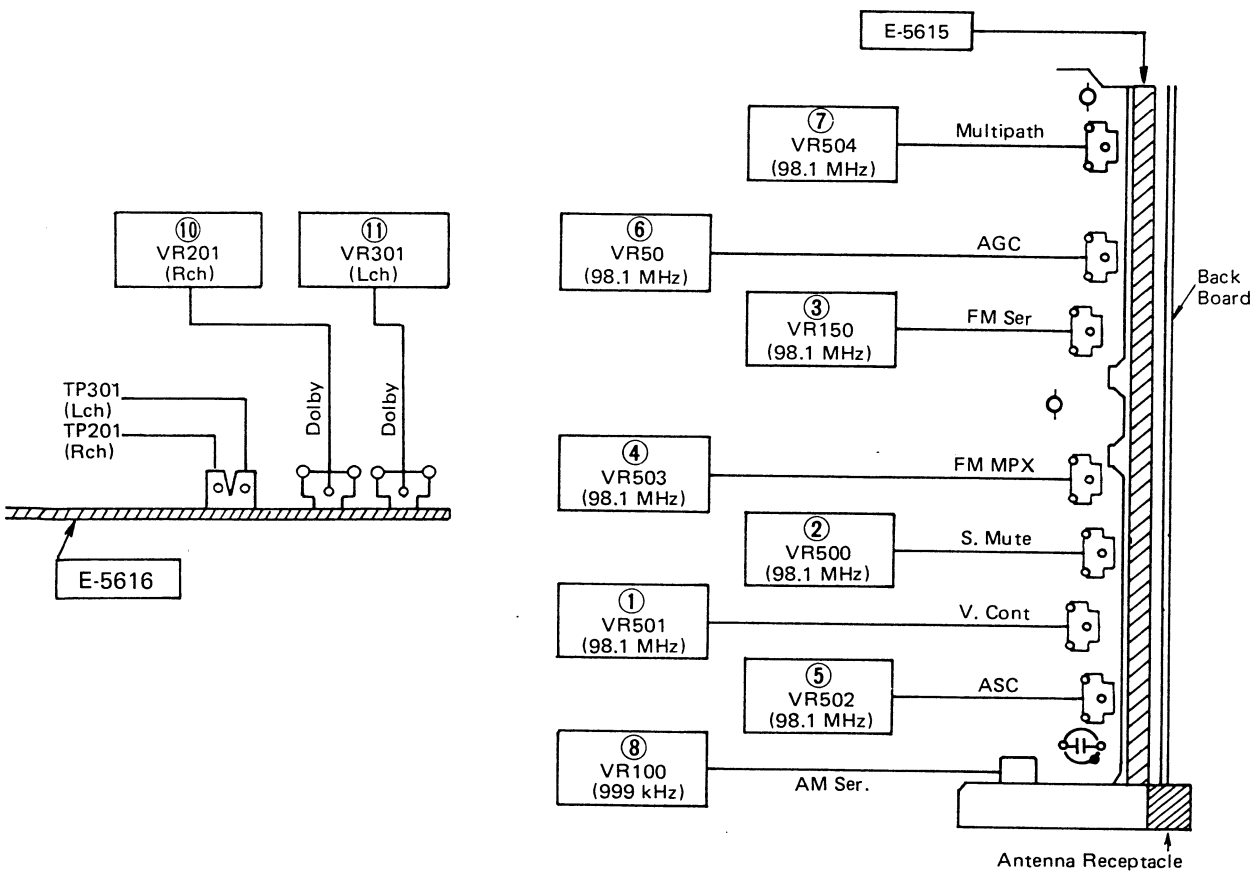
Note: If you do not have a test tape, use a tape whose recording level is than 6 kHz for head adjustment.
After the above adjustment apply bonding agent to the adjustment screw.



10. DOLBY NR ALIGNMENT

Step	Alignment Item	Input Terminal	Test Tape	VM Connection	Adjust	Remarks
10	Dolby NR	Playback Head	TCC - 130	TP201 – Ground	VR201 (Rch)	• Adjust for 388 ± 22mV (± 1 dB)
11				TP301 – Ground	VR301 (Lch)	• Adjust for 388 ± 22mV (± 1 dB)

Alignment Points

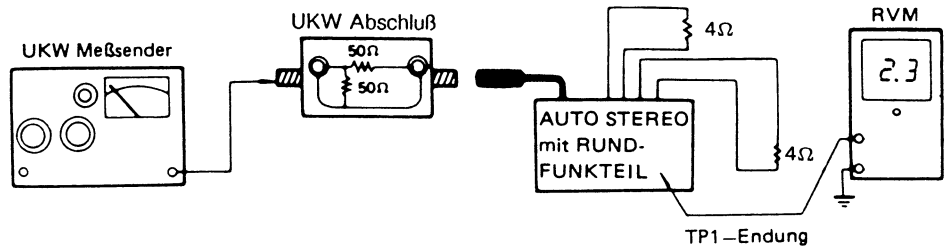


Abgleichungspunkte

- Spannungsversorgung :DC 14.4V
- Auspangsimpedanz :4Ω
- Ausgangsleistung :Mitte
- Überblendregler :Mitte
- Klangregler :Minimal
- GALA :0.5W

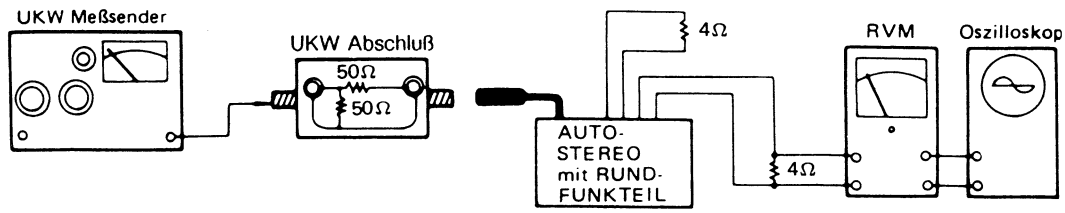
1. UKW STEUERSPANNUNGS-ABGLEICH

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammerkung
1	UKW STEUER-SPANNUNG	UKW	98.1 MHz 24 dB/μV	Antennen-anschluß	TP101-Erdung	98.1 MHz	VR501	•Auf 2.3 ± 0.05V stellen.



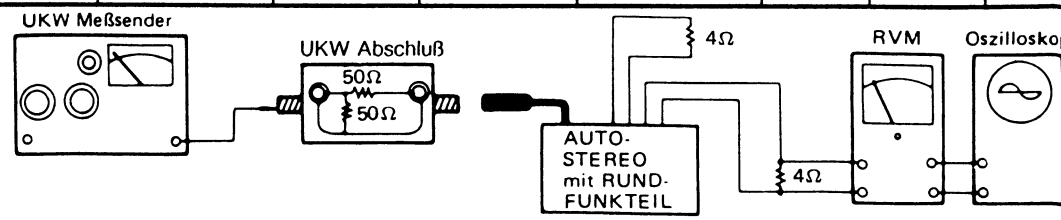
2. ABGLEICH DER UKW-STUMMABSTIMMUNG

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Ab-gleich	Ammerkung
2	UKW STUMM-ABSTI-MMUNG	UKW	98.1 MHz 54 dB/μV [400Hz Mod.30%]	Antennen-anschluß	Lautsprecher-anschlüsse	98.1 MHz	VR500	• Zu diesem Zeitpunkt beträgt der Ausgang-spegel 0 dB. • Den Ausgangspegel bei einem Eingang von -20 dB auf -30dB einstellen.



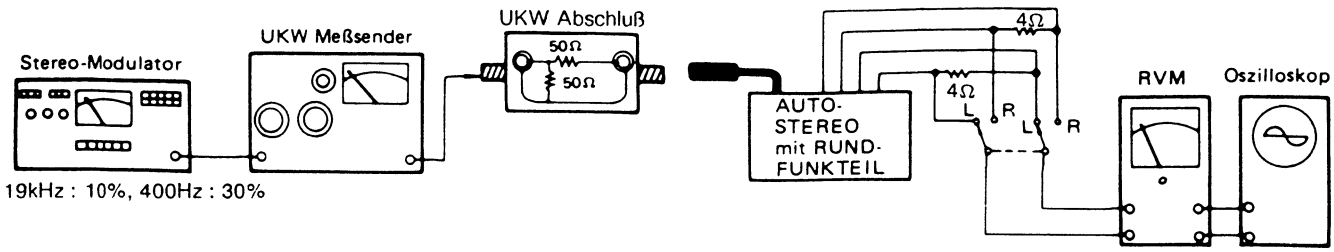
3. UKW SUCHEMPF INDLICHKEITS-EINSTELLUNG

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammerkung
3	UKW SUCHE MPF	UKW	98.1 MHz 20 dB/μV [400Hz Mod.30%]	Antennen-anschluß	Lautsprecher-anschlüsse	98.1 MHz	VR150	• Auf dei DX-Betr-iebsart einsteiien. • Die Suchlaufsch-welle auf 20 dB Eingang einstellen.



4. ABGLEICH VON UKW-MULTIPLEX TRENNUNG

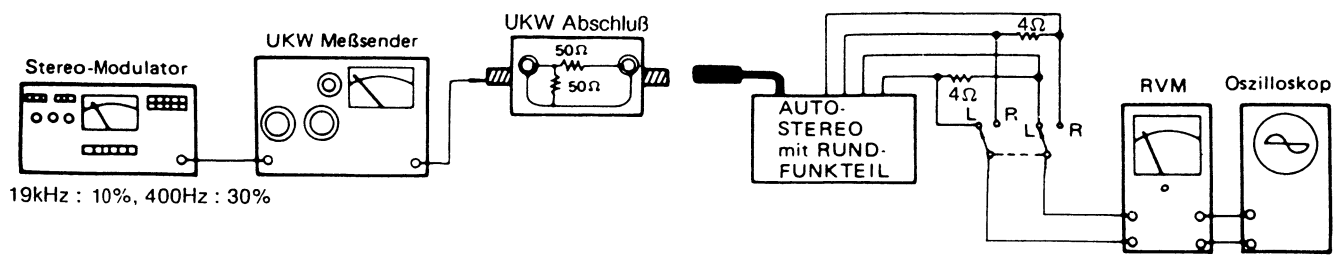
Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammer-kung
4	UKW MPX	UKW	98.1 MHz 70 dB/µV	Antennen-steckdose	Lautsprecher-anschlüsse	98.1 MHz	VR503	●Auf maximale Trennung einstellen.



Hinweis : ● Vor dieser Einstellung iet VR502 nach rechts zu drehen.

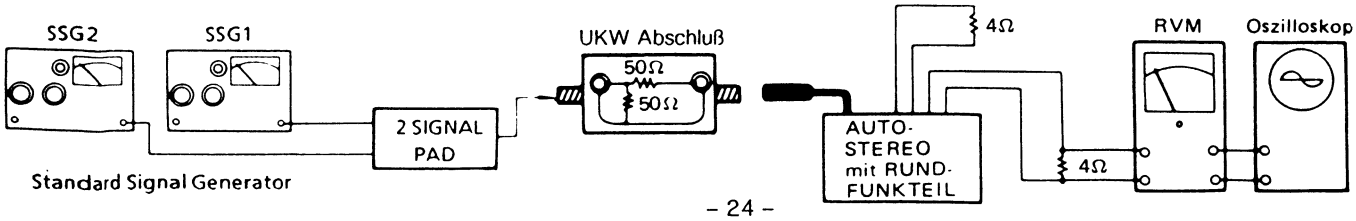
5. ABGLEICH VON UKW ASC

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammer-kung
5	UKW ASC	UKW	98.1 MHz 43 dB/µV	Antennen-anschluß	Lautsprecher -anschlüsse	98.1 MHz	VR502	●Auf 20 dB Trennung bei 43 dB/µV einstellen.



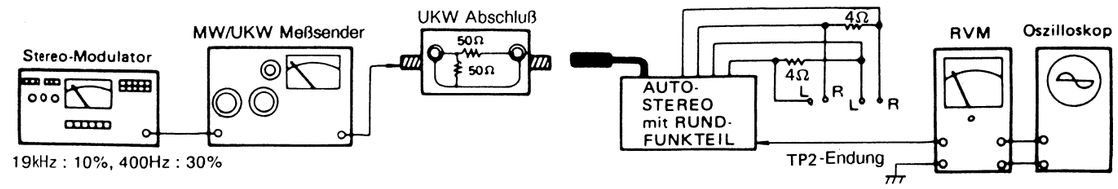
6. ABGLEICH VON UKW 2 SIGNAL AGC

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsender	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammer-kung
6	2 SIGNAL AGC	UKW	f1 : 98.1MHz 60dB/µV [400Hz Mod. 10%] f2 : 98.5MHz 100dB/µV [Non -Mod.]	Antennen-anschluß	Lautsprecher-anschlüsse	98.1 MHz	VR50	●Lautstärkeregelung auf 0 dB Ausgang einstellen. ●SSg1-Ausgang auf 46 dB/µV und Ausgang auf -3dB einstellen.



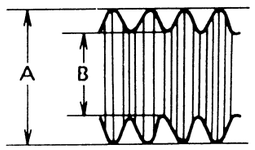
7. MEHRWEGERKENNUNGS-PEGEL ABGLEICH

Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammer-kung
7	UKW MEHRWEG-ERKENNUNGS PEGEL-ABGLEICH	UKW	98.1 MHz 54dB/µV UKW:400Hz 30% MW:50kHz 27%	Antennen-anschluß	TP2	98.1 MHz	VR504	• Einstellung so vornehmen, daß TP2 gerade Pulse erscheinen (Schaltpunkt). Meßbereich am Oszilloskop 2V/Div.



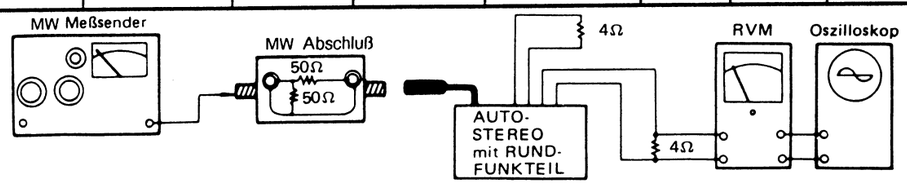
Hinweis :
- Für die Messungen sollte ein 100-MHz Oszilloscop verwendet werden.
- Die Einstellung des AM-Modulationsgrades sollte mit dem Oszilloskop vorgenommen werden, um genau 27% zu erreichen.

$$\frac{A-B}{A+B} \times 100\,(\%)$$



8. MW SUCHEMPF INDLICHKEITS EINSTELLUNG

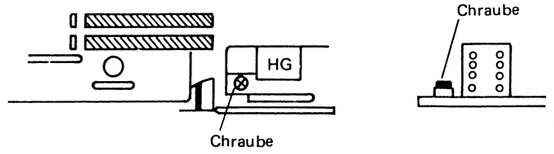
Stufe	Abgleich-objekt	Stellung des Wellenbereich-umschalters	Meßsender-frequenz	Ankopplung des Meßsenders	Anschluß des Anzeige-instruments	Anzeige	Abgleich	Ammerkung
8	MW SUCHE MPF	MW	999kHz 26 dB/µV [400Hz mod.]	Antennen-anschluß	Lautsprecher-anschlüsse	999kHz MHz	VR100	• Auf dei DX-Betr-iebsart einsteiien. • Die Suchlaufsch-welle auf 26 dB Eingang einstellen.



9. KOPFAZIMUTABGLEICH

Schritt	Abgleich-punkt	Prüfband	Eingangs-klemme	VM Anschluß	Einstellen	Bemerkungen
9	Kopfazimut	TCC-153	Wiederga-bekopf	Lautsprecher-klemmen	Kopfazimut-Einstellschraube	• Auf maximalen Ausgang einstellen. • Einen Kreuzschlitzschraubendreher verwenden.

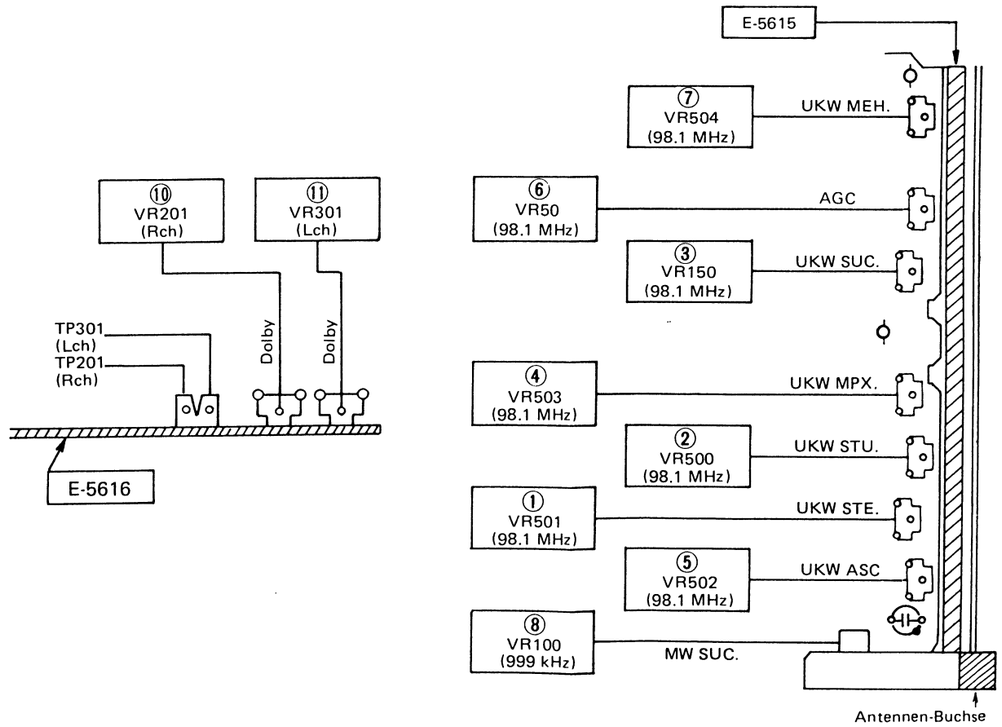
Hinweis: Falls Sie über kein Prüfband verfügen. ein Band mit einem Aufnahmepegel von 6 kHz für die Kopfeinstellung verwenden, Nach der obigen Einstellung ist Sicherungslack auf der Einstellschraube aufzutragen,



10.DOLBY NR ABGLEICH

Schritt	Abgleichungspunkt	Testband	Anschluß des Anzeige instrument	Justierung	Anmerkung
10	DOLBY NR	TCC-130	TP201 – Ground	VR201(Rch)	•Auf 388 mV ± 22mV
11		TCC-130	TP301 – Ground	VR301(Lch)	•Auf 388 mV ± 22mV

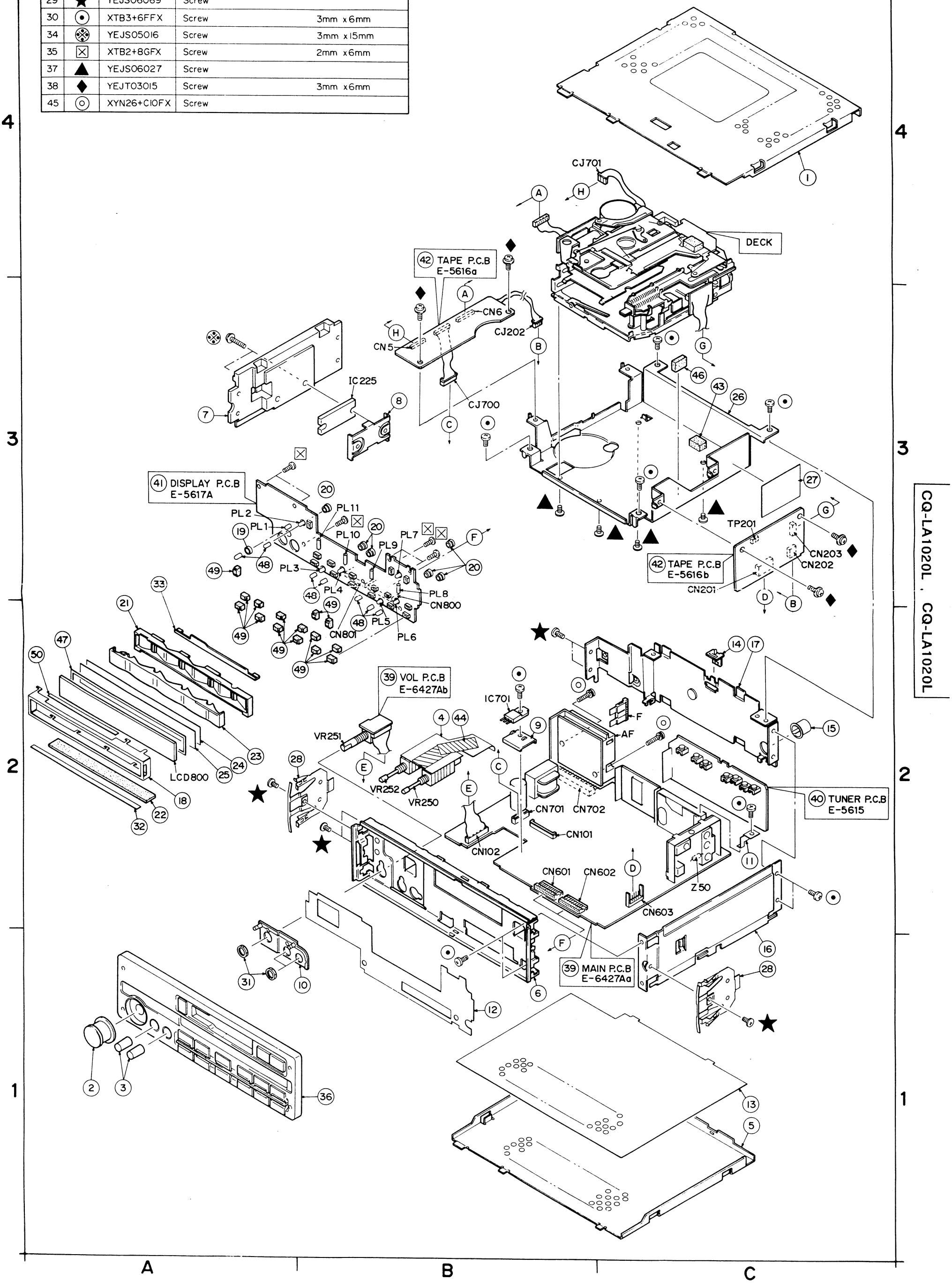
Anweisungen zur Abgleichung



Exploded View (Unit) /Aufgelöte Darstellungs(Ganzes Gerät)

■ The symbols next to the screw indicate as follows

29	★	YEJS06069	Screw	
30	⊙	XTB3+6FFX	Screw	3mm x 6mm
34	⊛	YEJS05016	Screw	3mm x 15mm
35	☒	XTB2+8GFX	Screw	2mm x 6mm
37	▲	YEJS06027	Screw	
38	◆	YEJT03015	Screw	3mm x 6mm
45	◎	XYN26+C10FX	Screw	



CQ-LA1020L , CQ-LA1020L

Replacement Parts List
Model No. CQ-LA1020L

MODEL NO. CQ-LA1020L

NOTES:

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. Next to the Ref. No. in the parts list is a location key, to show the general location of the parts shown in the exploded drawing, as in a road map.
4. Main replacement parts are marked ○ in the remarks column.

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
MISCELLANEOUS					
Z50 (2-C)	YEAL02007		Neon Tube	1	
F ⚠ (2-C)	YEAFC2001		Fuse	1	
PL1 to 7	YEAL01110		Pilot Lamp	7	
PL8 to 11	YEAL01150		Pilot Lamp	4	
TP201 (3-C)	YEAE0102ASLB		2P Connector (E5616)	1	
AF (2-C)	EMCP26232AA		Power/Speaker Connector	1	
CN5 (3-B)	EMCS0350Z		3P Connector (E5616)	1	
CN6 (3-B)	YEAE0706VS		7P Connector (E5616)	1	
CN101 (2-B)	YEAE5203020		Connector (E6424)	1	
CN102 (2-B)	YEAE1105MXBB		11P Connector (E6427)	1	
CN201 (3-C)	YEAE0106TKCX		6P Connector (E5616)	1	
CN202 (3-C)	YEAEM2003L		11P Connector (E6427)	1	
CN203 (3-C)	YEAE0505VS		5P Connector (E5616)	1	
CN500 (2-C)	YEAE0109ASLB		9P Connector (E5615)	1	
CN501 (2-C)	YEAE0103ASLB		3P Connector (E5615)	1	
CN502 (2-C)	YEAE0109ASLB		9P Connector (E5615)	1	
CN503 (2-C)	YEAE0103ASLB		3P Connector (E5615)	1	
CN601 (2-C)	YEAE0110TKCX		10P Connector (E-6427)	1	
CN602 (2-B)	YEAE0110TKCX		10P Connector (E-6427)	1	
CN603 (2-C)	YEAE0106TKCV		6P Connector (E-6427)	1	
CN701 (2-B)	YEAEM2007S		7P Connector (E-6427)	1	
CN702 (2-B)	YEAE0119ASLK		19P Connector (E-6427)	1	
CN800 (3-B)	YEAE0110TKCV		10P Connector (E5617)	1	
CN801 (3-B)	YEAE0110TKCV		10P Connector (E-5617)	1	
CJ202 (3-B)	YEAE0320PAM		3P Connector (E-5616)	1	
CJ700 (3-B)	YEAE0707PAM		7P Connector (E-5616)	1	
CJ701 (4-C)	EMCZ0309D65		9P Connector	1	
1 (4-C)	YEFA031070		Upper Cover	1	
2 (1-A)	YEFE07421		Knob	1	
3 (1-A)	YEFE07422		Knob	2	
4 (2-B)	YEAP2304		Flexible PCB	1	
5 (1-C)	YEFA05489		Under Cover	1	
6 (1-B)	YEFA07265		Front Plate	1	
7 (3-A)	YEFF01659		Heat Shink	1	
8 (3-B)	YEFX0212829		Mounting Bracket	1	
9 (2-B)	YEFX0212862		Mounting Bracket	1	
10 (1-B)	YEFX0213067		Mounting Bracket	1	
11 (2-C)	YEFX0213069		Mounting Bracket	1	
12 (1-B)	YEFV011305		Insulator	1	
13 (1-C)	YEFV011306		Insulator	1	
14 (2-C)	YEFX233387		Clamper	1	
15 (2-C)	YEAA10051		Antenna Receptacle	1	
16 (1-C)	YEFA09322AK		Front Plate	1	
17 (2-C)	YEFA08355		Back Plate	1	
18 (2-A)	YEFA13884		Case for LCD	1	
19 (3-A)	YEFK04514		Pilot Lamp Holder	1	
20 (3-B)	YEFK04518		Pilot Lamp Holder	6	
21 (2-A)	YEFK06433		Rubber Holder	1	
22 (2-A)	YEFS04484		Cushion	1	
23 (2-A)	YEFX0011117A		Panel Light	1	
24 (2-A)	YEFX025107A		Color Screen	1	
25 (2-A)	YEFX025095		Color Screen	1	
26 (3-C)	YEFX0213068		Mounting Bracket	1	
27 (3-C)	YEFV011237		Insulator	1	
28 (1-C) (2-B)	YEFX0051532		Mounting Spring	2	
29 ★	YEJS06069		Screw	6	
30 ◉	XTB3+6FFX		Screw 3mmφ×6mm	10	
31 (1-A)	YEJN01076		Nut	3	
32 (2-A)	YEFV021115		Shade	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
33 (3-A)	YEFX0011118		Panel Light	1	
34 ⊛	YEJS05016		Screw 3mmφ×15mm	2	
35 ⊠	XTB2+8GFX		Screw 2mmφ×6mm	6	
36 (1-B)	YEFC023328		Escutcheon Ass'y	1	
37 ▲	YEJS06027		Screw	4	
38 ◆	YEJT03015		Screw 3mmφ×6mm	4	
39 (1-B)(2-B)	YEP0PT6427A0		PCB w/Component	1	NLA
40 (2-C)	YEP0PT5615A0		PCB w/Component (TUNER)	1	NLA
41 (3-A)	YEP0PT5617A0		PCB w/Component	1	NLA
42 (3-B)(3-C)	YEP0PT5616A0		PCB w/Component	1	NLA
43 (3-C)	YEFS011008		Pad	1	
44 (2-B)	YEFV011413		Insulator	1	
45 ◎	XYN26+C10FX		Screw	2	
46 (3-C)	YEFS04500		Cushion	1	
47 (2-A)	YEFL02498		Spacer	1	
48 (3-B)	YEFR04464		Illumi Cap	7	
49 (2-A)	YEFS04378		Cushion	11	
50 (2-A)	YEFV021114		Shade	1	

ICs AND TRANSISTORS

MAIN BLOCK

<E6427A>

PA51	YEP0PTS323A0		PCB w/Component	1	
PA101	YEP0PTS518A0		PCB w/Component	1	
PA501	YEP0PTS333A0		PCB w/Component	1	
IC210	YEAMPD4052BG		IC	1	
IC220	YEAMM5218FT1		IC	1	
IC221	YEAMM5218FT2		IC	1	
IC222	YEAMM5218FT2		IC	1	
IC223	YEAMM5222FP		IC	1	
IC224	YEAMPC358G		IC	1	
IC225	YEAMTA8210AH		IC	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
IC401	YEAMM5218FT2		IC	1	
IC402	YEAMSAF7579T		IC	1	
IC403	YEAMTDA1579T		IC	1	
IC404	YEAMM5218FT1		IC	1	
IC405	YEAMLM2901M		IC	1	
IC601	YEAM78214523		IC	1	
IC602	YEAMSM161907		IC	1	
IC603	YEAMPD4094BG		IC	1	
IC604	MN1280PQR		IC	1	
IC605	YEAMLC7218M		IC	1	
IC606	YEAMTC4S66FR		IC	1	
IC607	MN1280PQR		IC	1	
IC608	YEAM17102012		IC	1	
IC609	YEAM75004607		LSI	1	
IC610	YEAMLM2901M		IC	1	
IC611	MN1280PQR		IC	1	
IC700, 701	YEAMPC24M08F		IC	2	
IC702	YEAMM51945BF		IC	1	
IC703	AN78N05		IC	1	
IC704	YEAMM51945AF		IC	1	
IC705	YEAMUPD5555G		IC	1	
IC706	YEAMLA5010M		IC	1	
Q100	YEANC144EKTX		Transistor	1	
Q101	YEANC114YKTX		Transistor	1	
Q102	YEANC144EKTX		Transistor	1	
Q103	YEANA812		Transistor	1	
Q104	YEANC144EKT		Transistor	1	
Q110	YEANC144EKTX		Transistor	1	
Q220	2SD1328STTX		Transistor	1	
Q221	2SD1328STTX		Transistor	1	
Q222	YEANA812		Transistor	1	
Q223	YEANC144EKTX		Transistor	1	
Q224	YEANC1623		Transistor	1	
Q225	YEANA812		Transistor	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
Q226	YEANC1623		Transistor	1	
Q227	2SD1328STTW		Transistor	1	
Q228	2SD1328STTX		Transistor	1	
Q229	YEANDTA114KW		Transistor	1	
Q320	2SD1328STTX		Transistor	1	
Q321	2SD1328STTX		Transistor	1	
Q322	YEANA812		Transistor	1	
Q328	2SD1328STTX		Transistor	1	
Q401	YEANC144EKTX		Transistor	1	
Q501	YEANBA1F4M		Transistor	1	
Q502	YEANBP1F3PT		Transistor	1	
Q600, 601	YEANFN3L4ZT1		Transistor	2	
Q602, 603	YEANFA3L4ZT1		Transistor	2	
Q604	YEANFN3L4ZT1		Transistor	1	
Q605, 606	YEANFA3L4ZT1		Transistor	2	
Q607	YEANFA3L4ZT2		Transistor	1	
Q608	YEANFA3L4ZT1		Transistor	1	
Q609 to 612	YEANFA3L4ZT1		Transistor	4	
Q613	YEANFN3L4ZT1		Transistor	1	
Q614, 615	YEAN2SK536		Transistor	2	
Q616	YEANC1623		Transistor	1	
Q617	YEANDTA114KW		Transistor	1	
Q700	YEAN2SA1244		Transistor	1	
Q701	YEANC1623		Transistor	1	
Q702	2SC1847-PQR		Transistor	1	
Q703	2SD1030TX		Transistor	1	
Q704	2SB956TW		Transistor	1	
Q705 to 707	YEANC1623		Transistor	3	
Q709	YEAN2SB810T		Transistor	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
			TUNER BLOCK		
<E5615>					
IC500	YEAMM5218FT2		IC	1	
IC502	YEAMHL23S		IC	1	
IC503	YEAMM5218FT1		IC	1	
Q150	YEANC1623		Transistor	1	
Q151	YEANC144EKT		Transistor	1	
Q500	YEANC144EKT		Transistor	1	
			TAPE BLOCK		
<E5616>					
IC1	YEAMPD4094BG		IC	1	
IC51	YEAMLA3161		IC	1	
IC201	YEAMCXA1102M		IC	1	
Q1, 2	YEAN2SC3068		Transistor	2	
Q3	YEAN2SA1244		Transistor	1	
Q4 to 6	YEAN2SD1111		Transistor	3	
Q7	YEAN2SC3068		Transistor	1	
Q50	YEANC144EKT		Transistor	1	
Q60, 61	YEANC144EKT		Transistor	2	
Q201	YEANC144EKT		Transistor	1	
Q202	2SD636		Transistor	1	
			DISPLAY BLOCK		
<E5617A>					
IC800	YEAMHD44780		LSI	1	

MODEL NO. CQ-LA1020L

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
DIODES					
MAIN BLOCK <E6427>					
D100	MA151WK			1	
D220	MA151WK			1	
D221	MA151WK			1	
D222	YEADRD68M2T2			1	
D223	YEADRD47M2T2			1	
D224 to 227	MA4027TA			4	
D228	MA151WA			1	
D602	MA151WK			1	
D700	YEADDSM1A2T7			1	
D701	MA151WK			1	
D703	YEADRD56JS3			1	
D704	MA151WA			1	
D705	MA151WK			1	
D706	YEAD11ES2				
D707	MA151WK			1	
TUNER BLOCK <E5615>					
D150	MA151K			1	
D501	MA159TW			1	
D502	MA151WA			1	
TAPE BLOCK <E5616>					
D1	MA165			1	
D2	YEADRD91EB2			1	
D3 to 5	YEADDSM1A2T7			3	
D201	YEADRD91EB2			1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
DISPLAY BLOCK <E5617A>					
D801, 802	MA159TW			2	
D804	MA159TW			1	
D805	MA159TW			1	
D807	MA159TW			1	
CAPACITORS					
MAIN BLOCK <E6427A>					
C51	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C101	YECUS1H272KX		Ceramic, 0.0027MFD 50WV	1	
C102, 103	YECUS1E223KX		Ceramic, 0.022MFD 25WV	2	
C104	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C105	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C106	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C150	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C153	YECSV1VT104L		Tantalum, 0.1MFD 35WV	1	
C220	ECEA1HKS0R1		Electrolytic AL, 0.1MFD 50WV	1	
C221, 222	YECUS1H183KX		Ceramic, 0.018MFD 25WV	2	
C223	YECUS1H821JM		Ceramic, 820PF 50WV	1	
C224	YECUS1H151JM		Ceramic, 150PF 50WV	1	
C225	YECSV1VT104R		Tantalum, 0.1MFD 35WV	1	
C226	ECEA1CK101		Electrolytic AL, 100MFD 16WV	1	
C227	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C228	YECUS1H153KX		Ceramic, 0.015MFD 50WV	1	
C229	YECSV1VT224L		Ceramic, 0.22MFD 35WV	1	
C230	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C231	YECSV1CT105L		Tantalum, 1MFD 16WV	1	
C232	YECUS1H390JM		Ceramic, 39PF 50WV	1	
C233	ECEA1CKS220		Electrolytic AL, 22MFD 16WV	1	
C234, 235	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	2	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C236	ECEA1HKS2R2		Electrolytic AL, 2.2MFD 50WV	1	
C237	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C238	ECEA1AKS220		Electrolytic AL, 22MFD 10WV	1	
C239, 240	ECQV1H154JZ		Polyester, 0.15MFD 50WV	2	
C241	ECEA1AU221		Electrolytic AL, 220MFD 10WV	1	
C242	ECEA1CK101		Electrolytic AL, 100MFD 16WV	1	
C243	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C244	ECEA1CKS220		Electrolytic AL, 22MFD 16WV	1	
C245	ECEA1CK101		Electrolytic AL, 100MFD 16WV	1	
C246	ECEA1AKS221		Electrolytic AL, 220MFD 10WV	1	
C247	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C248	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C249	YECUS1E104ZF		Ceramic, 0.1MFD 25WV	1	
C250	YECUS1H183KX		Ceramic, 0.018MFD 50WV	1	
C251	ECEA0JKS220		Electrolytic AL, 22MFD 6.3WV	1	
C252	YECUS1C224ZF		Ceramic, 0.22MFD 16WV	1	
C253	YECUS1C683KX		Ceramic, 0.068MFD 16WV	1	
C254	YECUS1E104ZF		Ceramic, 0.1MFD 25WV	1	
C256	ECEA1CKS220		Electrolytic AL, 22MFD 16WV	1	
C257	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C258	ECEA1HKSR33		Electrolytic AL, 0.33MFD 50WV	1	
C259	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C260	ECEA1CKS220		Electrolytic AL, 22MFD 16WV	1	
C261	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C262	YECUS1C683KX		Ceramic, 0.068MFD 16WV	1	
C263	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C264	YECUV1H471JM		Ceramic, 470PF 50WV	1	
C265	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C320	ECEA1HKS0R1		Electrolytic AL, 0.1MFD 50WV	1	
C321	YECUS1H183KX		Ceramic, 0.018MFD 50WV	1	
C322	YECUS1H183KX		Ceramic, 0.018MFD 50WV	1	
C323	YECUS1H821JM		Ceramic, 820PF 50WV	1	
C324	YECUS1H151JM		Ceramic, 150PF 50WV	1	
C325	YECSV1VT104R		Tantalum, 0.1MFD 35WV	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C328	YECUV2A153KX		Ceramic, 0.015MFD 100WV	1	
C329	YECSV1VT224R		Tantalum, 0.22MFD 35WV	1	
C330	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C331	YECSV1CT105L		Tantalum, 1MFD 16WV	1	
C332	YECUS1H390JM		Ceramic, 39PF 50WV	1	
C333	ECEA1CKS220		Electrolytic AL, 22MFD 16WV	1	
C334	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C336	ECEA1HKS2R2		Electrolytic AL, 2.2MFD 50WV	1	
C337	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C338	ECEA1AKS220		Electrolytic AL, 22MFD 10WV	1	
C339, 340	ECQV1H154JZ		Polyester, 0.15MFD 50WV	2	
C364	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C365	YECUV1H471JM		Ceramic, 470PF 50WV	1	
C401	YECUS1H330JM		Ceramic, 33PF 50WV	1	
C402	YECUS1H330JM		Ceramic, 33PF 50WV	1	
C403	YECUS1E104ZF		Ceramic, 0.1MFD 25WV	1	
C404	YECUV2A102KX		Ceramic, 0.001MFD 100WV	1	
C405	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C416	YECUS1H102KX		Ceramic, 0.001MFD 50WV	1	
C418	ECEA0JKS470		Electrolytic AL, 47MFD 6.3WV	1	
C421, 422	ECQV1H683JZ		Polyester, 0.068MFD 50WV	2	
C423	ECEA1EKS4R7		Electrolytic AL, 4.7MFD 25WV	1	
C424	YECUS1H102KX		Ceramic, 0.001MFD 50WV	1	
C425, 426	ECQV1H683JZ		Polyester, 0.068MFD 50WV	2	
C427	YECUS1C224ZF		Ceramic, 0.22MFD 16WV	1	
C428	YECUS1C563KX		Ceramic, 0.056MFD 25WV	1	
C429	YECUS1C104KX		Ceramic, 0.1 MFD 16WV	1	
C430, 431	ECQV1H683JZ		Polyester, 0.068MFD 50WV	2	
C501	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C502	YECUS1E223KX		Ceramic, 0.022MFD 25WV	1	
C503	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C504, 505	YECUS1H153KX		Ceramic, 0.015MFD 50WV	2	
C515	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C550	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C552	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C554	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C600	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C601	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C603, 604	YECUS1H270JM		Ceramic, 27PF 50WV	2	
C605, 606	YECUV1H101JM		Ceramic, 100PF 50WV	2	
C607	YECUV1H101JM		Ceramic, 100PF 50WV	1	
C608	YECUS1H101JM		Ceramic, 100PF 50WV	1	
C609, 610	YECUS1H150JM		Ceramic, 15PF 50WV	2	
C611	YECUV1H104KX		Ceramic, 0.1MFD 50WV	1	
C613	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C614	ECSF1VE475		Tantalum, 4.7MFD 35WV	1	
C615	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C616	ECSF1VE474		Tantalum, 0.47MFD 35WV	1	
C617	YECUS1C563KX		Ceramic, 0.056MFD 16WV	1	
C618	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C619	YECUS1H222KX		Ceramic, 0.0022MFD 50WV	1	
C621	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C622, 623	YECUS1H150JM		Ceramic, 15PF 50WV	2	
C624	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C625	ECEA1AKS221		Electrolytic AL, 220MFD 10WV	1	
C626	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C627	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C628	YECUV1E224ZF		Ceramic, 0.22MFD 35WV	1	
C629	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C630	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C631	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C633, 634	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	2	
C635	YECUV2A103KX		Ceramic 0.01MFD 100WV	1	
C636	YECUS1H103KX		Ceramic 0.01MFD 50WV	1	
C638, 639	YECUV2A103KX		Ceramic, 0.01MFD 100WV	2	
C640, 641	YECUS1H270JM		Ceramic, 27PF 50WV	2	
C642	YECUS1C224ZF		Ceramic, 0.22MFD 16WV	1	
C643	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C644	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C647	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C649	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C650	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C651	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C662	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C700	ECEA1CU222		Electrolytic AL, 2200MFD 16WV	1	
C701	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C702	YECUS1E104ZF		Ceramic, 0.1MFD 25WV	1	
C703	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C704	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C705	YECSV1CT105L		Ceramic, 1MFD 16WV	1	
C707	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C708	ECEA1CU470		Electrolytic AL, 47MFD 16WV	1	
C709	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C710	ECEA1AU101		Electrolytic AL, 100MFD 10WV	1	
C711	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	
C712	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C714	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C716	ECSF1CE226		Electrolytic AL, 22MFD 16WV	1	
C718	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C719	ECEA1CU470		Electrolytic AL, 47MFD 16WV	1	
C720	YECUS1H471JM		Ceramic, 470PF 50WV	1	
C721 to 723	ECEA1CK101		Electrolytic AL, 100MFD 16WV	3	
C724	ECEA1CKS470		Electrolytic AL, 47MFD 16WV	1	
C725, 726	ECEA1CK101		Electrolytic AL, 100MFD 16WV	2	
C727	ECEA1CKS470		Electrolytic AL, 47MFD 16WV	1	
C728	YECUS1C224ZF		Ceramic, 0.22MFD 16WV	1	
C731	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
CZ700, 701	YECCL55FZ103			2	

TUNER BLOCK

<E5615>

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C506, 507	YECUV2A682KX		Ceramic, 0.0068MFD 100WV	2	
C508, 509	YECUV1H683KX		Ceramic, 0.068MFD 50WV	2	
C510	ECEA0JKS470		Electrolytic AL, 47MFD 6.3WV	1	
C511, 512	YECUV1H121JM		Ceramic, 120PF 50WV	2	
C519	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C520	YECUV2A332KX		Ceramic, 0.0033MFD 100WV	1	
C521	YECUV1H223KX		Ceramic, 0.022MFD 50WV	1	
C522, 523	YECUV2A103KX		Ceramic, 0.01MFD 100WV	2	
C524	YECUV1E473KX		Ceramic, 0.047MFD 25WV	1	
C525	YECUV2A152KX		Ceramic, 0.0015MFD 100WV	1	
C632	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	

TAPE BLOCK

<E5616>

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C1	ECEA1AKS330		Electrolytic AL, 33MFD 10WV	1	
C2	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C3	ECEA1CU221		Electrolytic AL, 220MFD 16WV	1	
C4	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C5 to 7	YECUV2A103KX		Ceramic, 0.01MFD 100WV	3	
C8	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C51	YECUV2A102KX		Ceramic, 0.001MFD 100WV	1	
C52	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C53	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	1	
C54	YECUV1H273KX		Ceramic, 0.027MFD 50WV	1	
C55	YECUV2A153KX		Ceramic, 0.015MFD 100WV	1	
C60	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C61	YECUV2A102KX		Ceramic, 0.001MFD 100WV	1	
C62	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C63	ECEA1AKS101		Electrolytic AL, 100MFD 16WV	1	
C64	YECUV1H273KX		Ceramic, 0.027MFD 50WV	1	
C65	YECUV2A153KX		Ceramic, 0.015MFD 100WV	1	
C200	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C201	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C203	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C204	ECEA1HKSR68		Electrolytic AL, 0.68MFD 50WV	1	
C205, 206	ECEA1AKS101		Electrolytic AL, 100MFD 10WV	2	
C208	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C210	ECEA1AKS330		Electrolytic AL, 33MFD 10WV	1	
C211	ECEA1CKS100		Electrolytic AL, 10MFD 16WV	1	
C212	YECUV2A103KX		Ceramic, 0.01MFD 100WV	1	
C301	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C303	ECEA1HKS010		Electrolytic AL, 1MFD 50WV	1	
C304	ECEA1HKSR68		Electrolytic AL, 0.68MFD 50WV	1	

DISPLAY BLOCK

<E5617A>

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
C850	YECUS1H103KX		Ceramic, 0.01MFD 50WV	1	

RESISTORS

MAIN BLOCK

<E6427A>

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R100	ERJ6GEYJ182		Metal Coat, 1.8k ohms 0.1W	1	
R101	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R102	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R103	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R104	ERJ6GEYJ471		Metal Coat, 470 ohms 0.1W	1	
R105, 106	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	2	
R107	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	

MODEL NO. CQ-LA1020L

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R108	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R109	ERJ8GCYJ102		Metal Coat, 1k ohms 0.13W	1	
R220	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R221	ERJ6GEYJ273		Metal Coat, 27k ohms 0.1W	1	
R222	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R223	ERJ6GEYJ392		Metal Coat, 3.9k ohms 0.1W	1	
R224	ERJ6GEYJ333		Metal Coat, 33k ohms 0.1W	1	
R225	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R226	ERJ6GEYJ122		Metal Coat, 1.2k ohms 0.1W	1	
R228	ERJ6GEYJ471		Metal Coat, 470 ohms 0.1w	1	
R229	ERJ6GEYJ822		Metal Coat, 8.2k ohms 0.1W	1	
R230	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R231	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R232	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R233	ERJ6GEYJ393		Metal Coat, 39k ohms 0.1W	1	
R234	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R235	ERJ6GEYJ563		Metal Coat, 56k ohms 0.1W	1	
R236	ERJ6GEYJ821		Metal Coat, 820 ohms 0.1W	1	
R237	ERJ8GCYJ560		Metal Coat, 56 ohms 0.13W	1	
R238, 239	ERJ6GEYJ221		Metal Coat, 220 ohms 0.1W	2	
R240	ERJ6GEYJ471		Metal Coat, 470 ohms 0.1W	1	
R241, 242	ERJ8GCYJ2R2		Metal Coat, 2.2 ohms 0.13W	2	
R243	ERJ14YJ101H		Carbon, 100 ohms 0.25W	1	
R244	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R245	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R246	ERJ6GEYJ152		Metal Coat, 1.5k ohms 0.1W	1	
R247	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R248	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R249	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R250	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R251	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R252	ERJ6GEYJ183		Metal Coat, 18k ohms 0.1W	1	
R253	ERJ6GEYJ123		Metal Coat, 12k ohms 0.1W	1	
R254	ERJ8GCYJ222		Metal Coat, 2.2k ohms 0.13W	1	
R255	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R256	ERJ6GEYJ183		Metal Coat, 18k ohms 0.1W	1	
R257	ERJ6GEYJ821		Metal Coat, 820 ohms 0.1W	1	
R258	ERJ6GEYJ273		Metal Coat, 27k ohms 0.1W	1	
R259	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R260	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R261	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R262	ERJ6GEYJ562		Metal Coat, 5.6k ohms 0.1W	1	
R263	ERJ8GCYJ103		Metal Coat, 10k ohms 0.1W	1	
R264	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R265	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R266	ERJ6GEYJ683		Metal Coat, 68k ohms 0.1W	1	
R267	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R268	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R269	ERJ6GEYJ153		Metal Coat, 15k ohms 0.1W	1	
R270	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R271	ERJ6GEYJ334		Metal Coat, 330k ohms 0.1W	1	
R272	ERJ6GEYJ333		Metal Coat, 33k ohms 0.1W	1	
R273	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R274	ERJ6GEYJ274		Metal Coat, 270k ohms 0.1W	1	
R275	ERJ6GEYJ105		Metal Coat, 1M ohms 0.1W	1	
R276	ERJ6GEYJ134		Metal Coat, 130k ohms 0.1W	1	
R277	ERJ6GEYJ683		Metal Coat, 68k ohms 0.1W	1	
R278	ERJ8GCYJ101		Metal Coat, 100 ohms 0.13W	1	
R279	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R280	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R281	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R282	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R283	ERJ8GCYJ223		Metal Coat, 22k ohms 0.13W	1	
R284	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R285	ERJ6GEYJ124		Metal Coat, 120k ohms 0.1W	1	
R286	ERJ6GEYJ331		Metal Coat, 330 ohms 0.1W	1	
R287	ERJ8GCYJ123		Metal Coat, 12k ohms 0.13W	1	
R288	ERJ6GEYJ471		Metal Coat, 470 ohms 0.1W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R289	ERJ6GEYJ123		Metal Coat, 12k ohms 0.1W	1	
R290	ERJ8GCYJ563		Metal Coat, 56k ohms 0.13W	1	
R291	ERJ6GEYJ182		Metal Coat, 1.8k ohms 0.1W	1	
R292	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R320	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R321	ERJ6GEYJ273		Metal Coat, 27k ohms 0.1W	1	
R322	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R323	ERJ6GEYJ392		Metal Coat, 3.9k ohms 0.1W	1	
R324	ERJ6GEYJ333		Metal Coat, 33k ohms 0.1W	1	
R325	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R326	ERJ6GEYJ122		Metal Coat, 1.2k ohms 0.1W	1	
R331	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R332	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R333	ERJ6GEYJ393		Metal Coat, 39k ohms 0.1W	1	
R334	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R335	ERJ6GEYJ563		Metal Coat, 56k ohms 0.1W	1	
R336	ERJ6GEYJ821		Metal Coat, 820 ohms 0.1W	1	
R337	ERJ8GCYJ560		Metal Coat, 56 ohms 0.13W	1	
R338, 339	ERJ6GEYJ221		Metal Coat, 220 ohms 0.1W	2	
R340	ERJ8GCYJ471		Metal Coat, 470 ohms 0.1W	1	
R341, 342	ERJ8GCYJ2R2		Metal Coat, 2.2 ohms 0.13W	2	
R346	ERJ8GCYJ152		Metal Coat, 1.5k ohms 0.1W	1	
R347	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R348	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R368	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R387	ERJ8GCYJ123		Metal Coat, 12k ohms 0.13W	1	
R388	ERJ6GEYJ471		Metal Coat, 470 ohms 0.1W	1	
R401	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R402	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R403	ERJ6GEYJ333		Metal Coat, 33k ohms 0.1W	1	
R404	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R405	ERJ6GEYJ683		Metal Coat, 68k ohms 0.1W	1	
R406	ERJ6GEYJ682		Metal Coat, 6.8k ohms 0.1W	1	
R407	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R408	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R409	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R410	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R411	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R412	ERJ8GCYJ102		Metal Coat, 1k ohms 0.13W	1	
R413	ERJ6GEYJ122		Metal Coat, 1.2k ohms 0.1W	1	
R414	ERJ6GEYJ822		Metal Coat, 8.2k ohms 0.1W	1	
R415	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R417	ERJ6GEYJ563		Metal Coat, 56k ohms 0.1W	1	
R418	ERJ6GEYJ124		Metal Coat, 120k ohms 0.1W	1	
R419	ERJ6GEYJ394		Metal Coat, 390k ohms 0.1W	1	
R420	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R421	ERJ6GEYJ683		Metal Coat, 68k ohms 0.1W	1	
R422	ERJ6GEYJ682		Metal Coat, 6.8k ohms 0.1W	1	
R423	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R424	ERJ6GEYJ393		Metal Coat, 39k ohms 0.1W	1	
R425	ERJ6GEYJ511		Metal Coat, 510 ohms 0.1W	1	
R426	ERJ6GEYJ684		Metal Coat, 680k ohms 0.1W	1	
R427	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R428	ERJ6GEYJ563		Metal Coat, 56k ohms 0.1W	1	
R429	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R430	ERJ6GEYJ394		Metal Coat, 390k ohms 0.1W	1	
R431	ERJ8GCYJ473		Metal Coat, 47k ohms 0.1W	1	
R432	ERJ6GEYJ183		Metal Coat, 18k ohms 0.1W	1	
R433	ERJ6GEYJ184		Metal Coat, 180k ohms 0.1W	1	
R434	ERJ8GCYJ223		Metal Coat, 22k ohms 0.13W	1	
R501	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R502	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R503	ERJ6GEYJ394		Metal Coat, 390k ohms 0.1W	1	
R540	ERJ6GEYJ154		Metal Coat, 150k ohms 0.1W	1	
R541	ERJ8GCYJ223		Metal Coat, 22k ohms 0.13W	1	
R543,555	ERJ6GEYJ101		Metal Coat, 100 ohms 0.1W	2	
R600	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R601	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	

MODEL NO. CQ-LA1020L

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R602	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R603	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R604	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R605	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R606	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R607	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R608, 609	ERJ6GEYJ152		Metal Coat, 1.5k ohms 0.1W	2	
R610	ERJ6GEYJ561		Metal Coat, 560 ohms 0.1W	1	
R611	ERJ6GEYJ562		Metal Coat, 5.6k ohms 0.1W	1	
R612	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R613	ERJ6GEYJ152		Metal Coat, 1.5k ohms 0.1W	1	
R614	ERJ6GEYJ561		Metal Coat, 560 ohms 0.1W	1	
R615	ERJ6GEYJ223		Metal Coat, 22k ohms 0.1W	1	
R616	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R617, 618	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	2	
R619, 620	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	2	
R621	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R622	ERJ8GCYJ100		Metal Coat, 10 ohms 0.13W	1	
R623	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R624	ERJ6GEYJ562		Metal Coat, 5.6k ohms 0.1W	1	
R625	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R626	ERJ6GEYJ332		Metal Coat, 3.3k ohms 0.1W	1	
R627	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R628	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R629, 630	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	2	
R631	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R632, 633	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	2	
R634	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R635	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R636, 637	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	2	
R638	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R639	ERJ6GEYJ101		Metal Coat, 100 ohms 0.1W	1	
R640	ERJ8GCYJ101		Metal Coat, 100 ohms 0.13W	1	
R641	ERJ6GEYJ101		Metal Coat, 100 ohms 0.1W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R642	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R643	ERJ8GCYJ152		Metal Coat, 1.5k ohms 0.13W	1	
R644	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R646	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R647	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R648	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R649	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R650	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R651	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R652 to 656	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	5	
R700	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R701	ERJ6GEYJ183		Metal Coat, 18k ohms 0.1W	1	
R702	ERJ6GEYJ564		Metal Coat, 560k ohms 0.1W	1	
R703	ERJ6GEYJ683		Metal Coat, 68k ohms 0.1W	1	
R704	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R705	ERJ12YJ561H		Carbon, 560 ohms 0.5W	1	
R707	ERJ6GEYJ822		Metal Coat, 8.2k ohms 0.1W	1	
R708	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R709	ERJ6GEYJ224		Metal Coat, 220k ohms 0.1W	1	
R710	ERJ8GCYJ563		Metal Coat, 56k ohms 0.13W	1	
R712	ERJ6GEYJ153		Metal Coat, 15k ohms 0.13W	1	
R713	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R714	ERDS2FJ1R0		Carbon, 1 ohm 0.25W	1	
R717	ERJ6GEYJ473		Metal Coat, 47k ohms 0.1W	1	
R718	ERJ6GEYJ102		Metal Coat, 1k ohms 0.1W	1	
R719, 720	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	2	
R721	ERJ6GEYJ154		Metal Coat, 150k ohms 0.1W	1	
R723	ERJ6GEYJ103		Metal Coat, 10k ohms 0.1W	1	
R724	ERJ6GEYJ472		Metal Coat, 4.7k ohms 0.1W	1	
R725	ERJ14YJ122		Carbon, 1.2k ohms 25W		
R726	ERDS2FJ1R0		Carbon, 1 ohm 0.25W	1	
R727	ERJ6GEYJ391		Metal Coat, 390 ohms 0.1W	1	
R728	ERJ6GEYJ823		Metal Coat, 82k ohms 0.1W	1	
R729	ERJ6GEYJ183		Metal Coat, 18k ohms 0.1W	1	

Exploded View (Deck)/Anfgelöte Darstellungs(Tonband Gerät)

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R730	ERJ6GEYJ104		Metal Coat, 100k ohms 0.1W	1	
R736	ERJ8GCYJ103		Metal Coat, 10k ohms 0.1W	1	
R737	ERJ8GCYJ4R7		Metal Coat, 4.7 ohms 0.1W	1	
R738	ERJ8GCYJ122		Metal Coat, 1.2k ohms 0.1W	1	
R739	ERDS2FJ3R3		Carbon, 3.3 ohms 0.25W	1	
R740	ERJ12YJ6R8		Carbon, 6.8 ohms 0.25W	1	
R741	ERJ8GCYJ222		Metal Coat, 2.2k ohms 0.13W	1	
R742	ERJ8GCYK1R8		Metal Coat, 1.8 ohms 0.13W	1	
R743	ERJ8GCYJ681		Metal Coat, 680 ohms 0.13W	1	
<E5615>		**TAPE BLOCK**			
R152	ERJ8GCYJ563		Metal Coat, 56k ohms 0.13W	1	
R153	ERJ8GCYJ123		Metal Coat, 12k ohms 0.13W	1	
R154	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R155	ERJ8GCYJ221		Metal Coat, 220 ohms 0.13W	1	
R156	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R500	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R504, 505	ERJ8GCYJ332		Metal Coat, 3.3k ohms 0.13W	2	
R506, 507	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	2	
R508, 509	ERJ8GCYJ223		Metal Coat, 22k ohms 0.13K	2	
R510	ERJ8GCYJ822		Metal Coat, 8.2k ohms 0.13W	1	
R511	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R512, 513	ERJ8GCYJ823		Metal Coat, 82k ohms 0.13W	2	
R514, 515	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	2	
R516, 517	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	2	
R518, 519	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	2	
R525	ERJ8GCYJ183		Metal Coat, 18k ohms 0.13W	1	
R526	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R527	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R529, 530	ERJ8GCYJ564		Metal Coat, 560k ohms 0.13W	2	
R532	ERJ8GCYJ473		Metal Coat, 47k ohms 0.13W	1	
R534	ERJ8GCYJ683		Metal Coat, 68k ohms 0.13W	1	
R535	ERJ8GCYJ224		Metal Coat, 220k ohms 0.13W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
<E5616>		**TAPE BLOCK**			
R1	ERG1SJ101		Carbon, 100 ohms 1W	1	
R2	ERJ8GCYJ822		Metal Coat, 8.2k ohms 0.13W	1	
R3	ERJ8GCYJ681		Metal Coat, 680 ohms 0.13W	1	
R4, 5	ERJ8GCYJ153		Metal Coat, 15k ohms 0.13W	2	
R6	ERDS1FJ2R2		Carbon, 2.2 ohms 0.5W	1	
R7	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R8	ERDS2TJ122		Metal Coat, 1.2k ohms 0.25W	1	
R9 to 11	ERDS2TJ153		Carbon, 15k ohms 0.25W	3	
R13	ERJ8GCYJ103		Metal Coat, 10k ohms 0.1W	1	
R14	ERJ8GCYJ222		Metal Coat, 2.2k ohms 0.13W	1	
R50	ERJ8GCYJ333		Metal Coat, 33k ohms 0.13W	1	
R51	ERJ8GCYJ823		Metal Coat, 82k ohms 0.13W	1	
R52	ERJ8GCYJ101		Metal Coat, 100 ohms 0.13W	1	
R53	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R54	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R55	ERJ8GCYJ332		Metal Coat, 3.3k ohms 0.13W	1	
R56	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R57	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R60	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R61	ERJ8GCYJ823		Metal Coat, 82k ohms 0.13W	1	
R62	ERJ8GCYJ101		Metal Coat, 100k ohms 0.13W	1	
R63	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R64	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R65	ERJ8GCYJ332		Metal Coat, 3.3k ohms 0.13W	1	
R66	ERJ8GCYJ472		Metal Coat, 4.7k ohms 0.13W	1	
R67	ERJ8GCYJ104		Metal Coat, 100k ohms 0.13W	1	
R200	ERJ8GCYJ473		Metal Coat, 47k ohms 0.13W	1	
R201	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R202	ERJ8GCYJ822		Metal Coat, 8.2k ohms 0.13W	1	
R203	ERJ8GCYJ433		Metal Coat, 43k ohms 0.13W	1	
R204	ERJ8GCYJ103		Metal Coat, 10k ohms 0.13W	1	
R205	ERJ8GCYJ683		Metal Coat, 68k ohms 0.13W	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
R206	ERJ8GCYJ273		Metal Coat, 27k ohms 0.13W	1	
R208	ERJ8GCYJ271		Metal Coat, 270 ohms 0.13W	1	
R209	ERJ8GCYJ563		Metal Coat, 56k ohms 0.13W	1	
R213	ERJ8GCYJ223		Metal Coat, 22k ohms 0.13W	1	
R302	ERJ8GCYJ822		Metal Coat, 8.2k ohms 0.13W	1	
<E5617A>		**DISPLAY BLOCK**			
R801	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R802	ERJ6GEYJ184		Metal Coat, 180k ohms 0.1W	1	
R803	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	1	
R804	ERJ6GEYJ184		Metal Coat, 180k ohms 0.1W	1	
R805 to 807	ERJ6GEYJ222		Metal Coat, 2.2k ohms 0.1W	3	
		RESISTOR/RESISTOR			
Z600	EXBF6E473J		47k ohms×6	1	
		COILS			
L1	ELC08D050		Choke Coil	1	
L401	YELL07S176		OSC Coil	1	
L402	YELL07S175		OSC Coil	1	
L700	YETQ026F093		Choke Coil	1	
L701	YELT02C101KT		RF Coil	1	
L705	YELT02C101KT		RF Coil	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs Set	Remarks
		CRYSTALS			
XL401	YEXL49U04332			1	
XL600	YEXL49U11059			1	
XL601	YEXL49U07200			1	
XL602	YEXL51N08000			1	
XL603	YEXL51N04190			1	
		SWITCH			
SW601 to 615	YEAS09199		Preset Switch	15	
		LCD			
LCD800	YEXDCM966		LCD	15	
		VARIABLE RESISTORS			
VR50	EVNDCAA03B25		200k ohms Semi-fixed	1	
VR100	EVNDXAA00B25		200k ohms Semi-fixed	1	
VR150	EVNDCAA03B25		200k ohms Semi-fixed	1	
VR201, 301	EVNDCAA03B54		50k ohms Semi-fixed	2	
VR250	EVUSCA023305		Bass Control	1	
VR251	EVU5SR025B25		Treble Control	1	
VR252	EVU8SA023B15		Volume Control	1	
VR500	EVNDCAA03B54		50k ohms Semi-fixed	1	
VR501	EVNDCAA03B24		10k ohms Semi-fixed	1	
VR502	EVNDCAA03B15		100k ohms Semi-fixed	1	
VR503	EVNDCAA03B53		5k ohms Semi-fixed	1	
VR504	EVNDCAA03B54		50k ohms Semi-fixed	1	
		THERMISTOR			
TH701	ERPF3A3M102			1	

TAPE PLAYER PARTS

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
1	YEFA011228		Chassis Ass'y	1	
2	YEAKSDC2L21		Motor Ass'y	1	
3	YEFX003511		Main Gear	1	
5	YEFX249365		Change Plate Ass'y	1	
6	YEFX005956		H.S Spring (M)	1	
7	YESFA01775		Main Plate (M)	1	
8	YEFX249367		Pinch roller arm (F) Ass'y	1	
9	YEFX0212087		T.S. Actuator	1	
10	YEFX249366		FR Lock Plate Ass'y	1	
11	YEFX0051184		FR Lock Spring (D)	1	
12	YEFX0461270		FR Remove Plate	1	
13	YEFX0051030		FR Remove Spring (D)	1	
14	YEFX026106A		Center Pulley	1	
15	YEFX0051562		Control Spring	1	
16	YEJS06061		Screw	2	
17	YEAX01101		T Coil Ass'y	1	
18	YEAX02009A		Core	1	
19	YEFX0211789		PL Bracket	1	
20	YEFX0051563		Control Spring (M)	1	
21	YEAS07136		Switch	1	
22	YEFX046753A		FR Slide Plate	1	
23	YEFX046754		FR Actuator	1	
24	YEFX005960		FR Actuator Spring	1	
25	YEFX249368		Pinch Roller arm (R) Ass'y	1	
26	YEFX0213117		Pull Plate	1	
27	YEFX046755		TG Actuator	1	
28	YEFX046756		TG Push Plate	1	
29	YEFX026121		HP Roller (L)	1	
30	YEFX0461272		Head Panel Ass'y	1	
31	YEFX239287		Tape Guide	1	
32	YEFX005961		Head Adjust Spring	1	
33	YEAHP-8044-A		Head	1	
34	YEFX013013		PR Actuator	1	
35	YEFX005962		Pinch Roller Spring	1	
36	YEFX005963		HP Spring (M)	1	
37	YEFX213176		Flywheel Ass'y	2	
39	YEFR03056A		Belt	1	
40	YEFA011229		MG Plate Ass'y	1	
41	YEFX046757		FG Plate Ass'y	1	
42	YEFX046758		RG Plate Ass'y	1	
43	YEFX0051112		FR Gear Plate Ass'y	1	
44	YEFX003269		F Gear	2	
45	YEFX019034		ED Plate (F)	1	
46	YEFX019035		ED Plate (R)	1	
47	YEFX046761		ES Push Lever	1	
48	YEFX046762		TG Plate (F) Ass'y	1	
49	YEFX046763		TG Plate (R) Ass'y	1	
50	YEFX005965		TG Plate Spring	1	
51	YEFX003270		T Gear	2	
52	YEFX003271A		ET Gear	2	
53	YEFX026100A		FR Clutch Ass'y	1	
54	YEFX003272		Device Gear (Upper)	1	
55	YEFX003273		Device Gear (Lower)	1	
56	YEFX003274		DT Gear	1	
57	YEFX0051564		ED Spring (F)	1	
58	YEFX0461273		ES Plate (C)	1	
59	YEFX003275B		TS Actuator Gear	1	
60	YEFX003512		Turn Over Gear	1	
61	YEFS02090		Felt	1	
63	YEFX0461021		Trigger Arm	1	
64	YEFX005967		ED Spring	1	
65	YEFX026101		ED Peace	2	
66	YEFX209219		Reel Ass'y	2	
67	YEFX026102		Turn Over Gear Coller	1	
68	YEAX02001		Key-off Bracket Ass'y	1	
69	YEFX0051103		Planger Spring	1	

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Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
70	YEFX999542		Planger (E)	1	
71	YEFX249316		ET Arm Ass'y	1	
72	YEFX019036A		SA Plate (E2)	1	
73	YEFX0051099		SA Spring	1	
74	YEFX0051100		Cam Gear Spring	1	
75	YEFX003321		E Cam Gear	1	
76	YEFX0051104		EP Spring	1	
77	YEFX249317A		EP Arm (L) Ass'y	1	
78	YEAP2323		PCB w/Component	1	
79	YEFX233389		Reinforcement Plate	1	
80	YEFX003513		Center Gear (A)	1	
82	YEFX046857		Push Lever (L) Ass'y	1	
83	YEFX046860		CH Push (L) Ass'y	1	
84	YEFX005969		Push Lever Spring	1	
85	YEFX005970		CH Spring	1	
86	YEFX005971		Lift Up Lever Spring	1	
87	YEFX046770		Lift Up Lever (B)	1	
88	YEFX0213118		FR Bracket Ass'y	1	
89	YEFX046855		REW Lever	1	
90	YEFX046856		FF Lever	1	
91	YEFX0051602		EP Arm Spring	1	
92	YEFX0051108		FR Lever Spring	2	
93	YEFA011028		Case Liffer Ass'y	1	
94	YEFX046861		PE Plate Ass'y	1	
95	YEFX005973		PE SPring	1	
96	YEFX005974B		Turm Over Spring (C)	1	
97	YEFX0461274		Pack Slider	1	
98	YEFX0461275		CD Plate (L)	1	
99	YEFX005975		CD Spring	1	
100	YEFA011230		Cassette Case	1	
101	YEFX046777		Timing Plate	1	
102	YEFX005976		Spring	1	
103	YEFS01404		Rubber Cushion	1	
104	YEFX019045		C.S. plate	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
105	YEFX0051565		EK Spring	1	
106	YEFX0051566		P.P. Spring	1	
107	YEFX030084		Balancer	1	
108	YEFW05260		Collar	1	
109	YEAX01056		T Coil Ass'y	2	
110	YEP0FX812		Gear Bracket	1	
112	YEFX046862		FP Lever	1	
113	YEFX0051097		Lever Spring	2	
114	YEFX046863		P.P Lever	1	
116	YEFX003322		D Gear	1	
117	YEFX003323		Cam Gear (F)	1	
118	YEFX003324		Cam Gear (R)	1	
119	YEFX249318		Lift Arm Ass'y	1	
120	YEFX0051101		Lift Arm Spring	2	
121	YEFX0051102		FF Lever Lift Spring	1	
122	YEFX249319		Lift Arm (REW) Ass'y	1	
123	YEJW05112		Washer	1	
124	YEFX0051098		REW Lever Lift Spring	1	
125	YEAX02014		Core	1	
126	YEFX007524		Cord Clamp	3	
127	YEAP5238		PCB for Solenoid	1	
128	YEJW05108		Polyslider	2	
129	YEJW05109		Polyslider	1	
130	YEFX021948		E Bracket	1	
201	YEJS06141		Screw	2	
202	YEJS06056		Screw	2	
203	XTN2 + 6FX		Screw	1	
204	XQN2 + 25FX		Screw	2	
205	XQN2DA4FX		Screw	2	
206	YEJS06058		Screw	8	
207	XQN2 + 3FK		Screw	1	
208	YEJS06059		Screw	2	
209	YEJS06080		Screw	1	
210	YEJW05043		Polyslider	15	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
211	YEJW05044		Polyslider	2	
212	YEJW05045		Polyslider	2	
213	YEJW05046		Polyslider	1	
214	YEJS06075		Screw	1	
215	YEJW05110		Polyslider	1	
216	XQN2 + 10FX		Screw	2	
217	XQN2 + 4FK		Screw	1	
218	YEJW05053		Polyslider	1	
219	XQN2 + 23FK		Screw	1	
220	XQN2 + 2FK		Screw	2	
221	YEFX014028		E-Ring	1	
222	YEFX014029		E-Ring	3	
223	YEFX014030		E-Ring	2	
224	YEFX014031		E-Ring	6	
225	YEJS06101		Screw	1	
226	XUC25FX		E-Ring	1	
227	YEJW05048		Polyslider	2	
228	YEJW05049		Polyslider	2	
229	XQN2 + 18FX		Screw	1	
230	YEJW05055		Polyslider	1	
250	YEFX218258		Guide Roller	1	
251	YEFX0213186		Bracket	1	
252	YEFX0051587		Detecting Spring	1	
253	YEFX0461290		Detecting Bracket	1	
254	YEJW02128		Guide Roller	1	
255	YEFX0213187		Bracket B	1	
256	YEAP2338		PCB for Switch	1	
257	YEAS09247		Switch	1	
258	YEAJ07947		Cord	2	